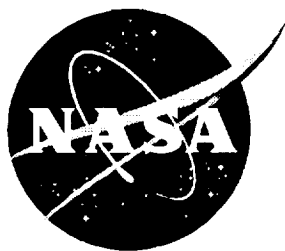# Mission Description and In-Flight Operations of ERBE Instruments on ERBS, NOAA 9, and NOAA 10 Spacecraft

January 1990 Through December 1990

Dianne Snyder, Kathryn Bush, Kam-Pui Lee, and Jessica Summerville
Science Applications International Corporation (SAIC), Hampton, Virginia

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Abstract

Instruments of the Earth Radiation Budget Experiment (ERBE) have operated on three different Earth-orbiting spacecraft. The Earth Radiation Budget Satellite (ERBS) is operated by the National Aeronautics and Space Administration (NASA), and the NOAA 9 and NOAA 10 weather satellites are operated by the National Oceanic and Atmospheric Administration (NOAA). This paper is one of a series that describes the ERBE mission, in-orbit environments, instrument design and operational features, and data processing and validation procedures. This paper also describes the in-flight operations for the ERBE nonscanner instruments aboard the ERBS, NOAA 9, and NOAA 10 spacecraft from January 1990 through December 1990. Validation and archival of radiation measurements made by ERBE nonscanner instruments during this period were completed in August 1996. This paper covers normal and special operations of the spacecraft and instruments, operational anomalies, and the responses of the instruments to in-orbit and seasonal variations in the solar environment.

Introduction

The objective of the Earth Radiation Budget Experiment (ERBE) is to determine long-term trends in monthly averages of the Earth's longwave and shortwave radiation fields. To accomplish this objective, ERBE instruments were launched into Earth orbits aboard the Earth Radiation Budget Satellite (ERBS) (operated by Goddard Space Flight Center (GSFC)) in October 1984 and aboard the NOAA 9 and NOAA 10 spacecraft (operated by the National Oceanic and Atmospheric Administration (NOAA)) in December 1984 and September 1986, respectively. Validation and archival of data from the first 15 months of instrument operation, November 1984 through January 1986, were completed in March 1990. Reference 1 describes mission strategy and operation of the ERBE instruments aboard the ERBS and NOAA spacecraft during that 15-month period. Reference 1 also gives an overview of the ERBE mission, the design and operational features of the ERBE instruments, and a description of the ERBE science data processing. Validation and archival of data from the second year of instrument operations, February 1986 through January 1987, were completed in July 1991. Reference 2 describes the operation of the ERBE instruments during that second year. Reference 3 describes the in-orbit operation of the ERBE instruments aboard the ERBS spacecraft from February 1987 through February 1990 and of the instruments aboard the NOAA 10 spacecraft from February 1987 through May 1989. Validation and archival of data from these satellite months were completed in May 1992. The scanner instrument aboard the NOAA 10 spacecraft ceased operating in May 1989, and that aboard the ERBS spacecraft ceased operating in February 1990. The scanner instrument aboard the NOAA 9 spacecraft had ceased operating in January 1987 (ref. 2). Hence, after February 1990, no ERBE scanner instruments were operational. All three ERBE nonscanner instruments are operational.

This paper describes the in-orbit operation of the ERBE nonscanner instrument aboard the ERBS, NOAA 9, and NOAA 10 spacecraft from January through December 1990. Validation and archival of data from these satellite months were completed in August 1996. The discussion includes normal and special spacecraft and instrument operations, operational anomalies, and the response of the nonscanner instruments to in-orbit and seasonal variations in the solar environment.

Nomenclature

Acronyms and Abbreviations

ACR	active cavity radiometer
BB	blackbody
CAL	calibration
CDC/NOS	Control Data Corporation/Network Operating System
CPU	central processing unit
DAAC	Distributed Active Archive Center
EOSDIS	Earth Observing System Data and Information System
ERBE	Earth Radiation Budget Experiment
ERBS	Earth Radiation Budget Satellite
FOV	field of view
GSFC	Goddard Space Flight Center
HK	housekeeping
IDIN	internal data product one, nonscanner
IVT	instrument validation tape
LaRC	Langley Research Center
MFOV	medium field of view

NASA	National Aeronautics and Space Administration
NESDIS	National Environmental Satellite, Data, and Information Service
NOAA	National Oceanic and Atmospheric Administration
NS	nonscanner
PAT	processed archival tape
POCC	Payload Operations and Control Center
QC	quality control
RAT	raw archival tape
S-4GN	regional, zonal, and global gridded averages nonscanner product
S-4N	regional, zonal, and global averages nonscanner product
S-7	medium-wide data tape
S-10N	Earth radiant flux and albedo product
SAGE	Stratospheric Aerosol and Gas Experiment
SAS	solar aspect sensor
SBUV	Solar Backscatter Ultraviolet instrument
SMA	Solar Monitor Assembly
SMM	Solar Maximum Mission
SOCC	Satellite Operations and Control Center
SW	shortwave
SWICS	Shortwave Internal Calibration Source
TDRSS	Tracking and Data Relay Satellite System
temp.	temperature
TOA	top of atmosphere
TOT	total
UT	universal time
YGC	yaw gyrocompass
WFOV	wide field of view

Symbols

A, B	azimuth positions, deg
$\hat{N}$	unit vector in direction of orbit angular momentum
V	component of spacecraft velocity vector
X, Y, Z	coordinate axes
α	azimuth angle, deg
β	beta angle (angle between Sun and orbit angular momentum vectors), deg
ϕ	elevation (scan) angle, deg

Subscripts:

E	ERBS
LH	local horizon
N	NOAA
NS	nonscanner
α	azimuth angle
ϕ	elevation angle

Mission Overview

The goal of the Earth Radiation Budget Experiment (ERBE) is to produce monthly averages of longwave and shortwave radiation parameters on the Earth at regional-to-global scales by using radiation measurements obtained from three sets of nearly identical instruments flying on three separate spacecraft. These three spacecraft are the Earth Radiation Budget Satellite (ERBS) spacecraft (operated by Goddard Space Flight Center (GSFC)) and the NOAA 9 and NOAA 10 spacecraft (operated by the National Oceanic and Atmospheric Administration (NOAA)).

The ERBS spacecraft, launched by the Space Shuttle *Challenger* in October 1984, was the first spacecraft to carry ERBE instruments into orbit. The second and third sets of ERBE instruments were launched aboard the NOAA 9 and NOAA 10 operational meteorological satellites in December 1984 and September 1986, respectively. The Payload Operations and Control Center (POCC) at GSFC directs operations of the ERBS spacecraft and its ERBE and Stratospheric Aerosol and Gas Experiment (SAGE) II instruments by using both ground stations and the Tracking and Data Relay Satellite System (TDRSS) network. The Information Processing Division at GSFC receives and processes spacecraft and telemetry data from ERBS and provides that data to Langley Research Center (LaRC) for further processing. GSFC also provides LaRC with ephemeris data for all three spacecraft. The Satellite Operations and Control Center (SOCC) at the National Environmental Satellite, Data, and Information Service (NESDIS) operates the NOAA spacecraft and their ERBE instruments, provides decommutation processing of the telemetry data, and generates ERBE data for LaRC.

Data Processing, Validation, and Distribution of Science Data Products

Langley Research Center has the responsibility of processing and validating all science data from the ERBE mission and of distributing the resulting data products to the science community. The ERBE data processing system at LaRC uses modular software subsystems to process the ERBE data, starting with the input telemetry

and ephemeris data from GSFC and NOAA, and ending with the production of the required science data products.

Figure 1 shows the major steps in the science data processing, together with the primary input and output products. Details of the data processing are provided in reference 1. Some changes to the data processing, as described in reference 1, have been implemented to handle processing of only nonscanner data; data processing changes have also been implemented because of the change in the data processing platform from a CDC/NOS operating system to a Unix operating system. In the current system, as illustrated in figure 1, 24-hour telemetry data files from ERBS, NOAA 9, or NOAA 10 spacecraft are transferred electronically to the Langley Distributed Active Archive Center (DAAC), which is part of the Earth Observing System Data and Information System (EOSDIS). Also, 8-day ephemeris data sets from GSFC for all three spacecraft are transferred electronically to the DAAC. Although the word *tape* is used in many of the data product names, tapes are no longer used in the ERBE data processing system, and all data products exist as electronic files. The ephemeris data are processed, separated into single-day files, and input, along with the raw telemetry data, into the daily and top of atmosphere (TOA) processing system. Major data products from this system are the instrument validation tape (IVT), which goes to the LaRC Science Team for validation of the instrument calibration, and the medium-wide data tape (S-7), which is archived at the LaRC DAAC. The S-7 product is the nonscanner-only version of the Processed Archival Tape (PAT) product described in reference 1, which included both scanner and nonscanner data. The quality control (QC) reports generated by the daily and TOA processing system are sent to the ERBE data analysts, and if approved, the radiant fluxes at TOA that are calculated from this first step in the processing are input into the next processing step, the monthly time-space averaging system. The QC reports and validation graphics from this processing step are sent to the ERBE data analysts and the LaRC Science Team, respectively. If approved, the monthly averages (S-10N) and the nested averages (S-4N and S-4GN) are archived at the LaRC DAAC. Requests for ERBE data products should be directed to the LaRC DAAC[1].

Table 1 presents summary information about the internal data product one for nonscanner instrument (ID1N) and the S-7 archival product for each spacecraft for each month of operation covered in this paper. The ID1N is the nonscanner-only version of the raw archival

tape (RAT) product described in reference 1. The information in table 1 includes the percentage of data output to the ID1N and to the S-7, the date of archival at the DAAC, and a notation on special operational events during the month.

Instrument Design and Operational Capabilities

Instrument design is discussed in detail in references 1 through 4. The ERBE nonscanner (fig. 2) has several important features. The instrument has rotating azimuth and elevation beams that have the capability to rotate the optical axes of the detectors in two degrees of freedom. The instrument can perform two different types of in-flight calibrations: solar calibrations using the Sun as the calibration source, and internal calibrations using temperature-controlled blackbodies (BB) and special Shortwave Internal Calibration Sources (SWICS). The instrument has microprocessors that process and execute ground-commanded or stored commands to direct and control operations.

The nonscanner instrument (fig. 2) consists of four Earth-viewing detectors and one solar monitor detector located on the head assembly. The four Earth-viewing detectors are unchopped active cavity radiometers (ACR's), whereas the solar monitor is an unfiltered chopped ACR designed to measure direct solar radiation for calibrating the Earth-viewing detectors. Two of these detectors have wide field-of-view (WFOV) apertures that allow the detectors to view the entire disk of the Earth; the other two detectors have medium field-of-view (MFOV) apertures that allow the detectors to view an area about 1100 km in diameter. Two of the Earth-viewing detectors, one WFOV and one MFOV, and the solar monitor detector measure total radiation, whereas the other two Earth-viewing detectors measure shortwave radiation. The spectral characteristics of the five nonscanner detectors are listed in table 2. The total radiation detectors are unfiltered, and the shortwave spectral bands are achieved by use of fused silica dome filters placed over the detectors.

The nonscanner instrument can operate in several different modes so that radiation measurements can be made over a wide range of operational conditions. The instrument has a microprocessor to control and direct the various operations. Table 3 lists the operational and pulse discrete commands, which are discussed in detail in reference 1. The instrument can operate at fixed elevation-beam positions of 0° (nadir), 78° (solar ports), and 180° (stow or internal calibration position), and at azimuth angles between 0° and 180°.

The ERBE nonscanner instrument output consists of a complete cycle of radiometric and housekeeping measurements every 16 seconds. A list of the data output by

the instrument in a 16-second record is shown in table 4, which also indicates the specific instrument data that are included on the ID1N validation product and the S-7 archival product, and the units of each data quantity. Note that the ID1N contains all the data output by each instrument and that most of the housekeeping measurements have been converted to engineering units. The S-7, on the other hand, contains the converted values of the radiometric measurements and none of the housekeeping data.

Coordinate Systems and In-Flight Geometry

A familiarity with Earth-Sun-spacecraft geometry and associated in-flight coordinate systems is helpful in understanding in-flight operations and instrument data output. Pertinent coordinate systems and in-flight geometry are described here, beginning with a description of the instrument coordinate axes. An additional description of the general Earth-Sun-spacecraft geometry is given in appendix B of reference 1.

When discussing detector pointing vectors, it is convenient to assume that the origin of a set of coordinate axes is at the focal point of the detector of interest. Figure 2 illustrates the fixed and rotating axes systems of the nonscanner instrument. The fixed axes of the nonscanner instrument are noted by the subscript NS. The axes of the rotating azimuth beam are noted by the subscript α, and the axes of the rotating elevation beam are noted by the subscript ϕ.

The azimuth beam of each instrument has a single degree of freedom relative to the fixed axes, permitting the entire head assembly (structure below pedestal) to rotate about the fixed X-axis. The rotating α-axes are aligned with the fixed axes when the rotation angle α is zero. A positive rotation (clockwise) about the fixed X-axis of either instrument produces a positive azimuth angle α, which is measured from the fixed Z-axis. The azimuth beam of either instrument can rotate between angles of 0° and 180°.

The nonscanner elevation beam can rotate in one degree of freedom relative to the azimuth beam, permitting the optical axes of the four Earth-viewing detectors to rotate about the Y_α-axis. Figure 2 shows the alignment of the rotating ϕ-axes with the fixed axes and rotating α-axes of the nonscanner instrument when the elevation angle ϕ is zero. A negative (counterclockwise) rotation about the rotating Y_α-axis of the nonscanner instrument produces a positive elevation angle ϕ, which is measured from the fixed X-axis. The elevation beam operates only at three elevation positions: 0° (nadir), 78° (solar ports), and 180° (internal calibration source, or stow). The optical axis of the solar monitor is fixed on the azimuth beam

at an elevation angle of 78°, which is 12° down from the spacecraft horizon.

Figure 3 illustrates how the fixed axes of the ERBE instruments are aligned with the axes of the spacecraft on which they are mounted. The ERBS spacecraft axes have the subscript notation E (ERBS), and NOAA spacecraft axes have the subscript notation N (NOAA). NOAA 9 and NOAA 10 have the same coordinate system. As in figure 2, NS refers to the nonscanner instrument. Note that only the orientation of these axes systems relative to each other are important, not the locations of their origins. The positive Y-axis of the ERBS spacecraft is in the direction in which the solar panels are tilted, and the positive Z-axis of each NOAA spacecraft is parallel to the axis of the boom which supports the spacecraft solar panel.

Figure 4 illustrates how the axes of the two types of spacecraft are aligned with their respective in-flight local horizon axes, and on which side of the orbit the Sun is positioned relative to the orbit plane and spacecraft velocity vector. Here V_{LH} is the component of the spacecraft velocity vector in the local horizon plane, $\hat{N}$ is the orbit angular momentum vector, and X_{LH} and Z_{LH} indicate the direction of local nadir for NOAA and ERBS spacecraft, respectively. Figure 4 also shows the position of the instrument azimuth beam (α-axes system) relative to the local horizon system when the rotating azimuth axes are aligned with the fixed axes.

The attitude or orientation angles of a spacecraft, which are provided in the telemetry data, are defined relative to the specific local horizon system in which the spacecraft operates. The spacecraft attitude angles and the azimuth and elevation angles of the instruments are used to compute the pointing vectors of the primary (Earth-viewing) radiometric detectors, as well as those of the solar monitor, in the appropriate local horizon system of figure 4. The pointing vectors for the ERBS spacecraft of figure 4(a) are then transformed into the NOAA local horizon system of figure 4(b) so that all pointing vectors have a common local horizon system. The pointing vectors in this common axes system are used to compute the Earth locations of the primary radiometric measurements.

When the ERBS spacecraft is flying X-axis forward (positive X-axis in the direction of the positive spacecraft velocity vector), the Sun is normally on the right side of the ERBS orbit (looking downrange or down the velocity vector). When the Sun crosses the ERBS orbit plane from right to left, the spacecraft is yawed (rotated about nadir or Z_E-axis) 180° to reposition the solar panels so that they tilt to the left side of the orbit. About 36 days later, when the Sun again crosses the orbit plane, this time from left to right, the spacecraft is again rotated

180°. The NOAA spacecraft are in approximate Sun-synchronous orbits, and they always fly with their *Y*-axes along the negative velocity vector with the Sun on the left side of the orbit.

Appendix B in reference 1 describes the local horizon coordinate system in which the Sun position is normally calculated. The azimuth and elevation angles of the Sun in this system can be directly related to the Sun angles in the instrument axes systems of the ERBE nonscanner instrument described earlier in this section.

General Discussion and Analysis of Mission and Instrument Operations

This section presents a discussion of the instruments aboard each spacecraft separately, beginning with a brief description of operational responsibilities and procedures. An overview of calibrations and normal Earth-viewing operations is then presented, followed by discussions of the effects of the solar environment on instrument operations, of operational anomalies, and of instrument housekeeping measurements.

ERBS Spacecraft

The ERBS spacecraft and the ERBE nonscanner instrument aboard it are controlled and operated by NASA at its Payload Operations and Control Center (POCC) at Goddard Space Flight Center, Greenbelt, Maryland. The LaRC ERBE personnel are responsible for planning changes in instrument operation, and the plans are coordinated with POCC personnel, who implement the changes. The operational status of the instruments and housekeeping measurements are monitored directly at the ERBS POCC during real-time passes. A telecommunication link between LaRC and the ERBS spacecraft via the POCC has permitted LaRC personnel to do limited real-time monitoring of the ERBE instrument operations and housekeeping data. This communication link has proved particularly valuable when the resolution of spacecraft or instrument problems has required participation by LaRC personnel.

In-flight operations. Table 5 lists the operational modes in which the instrument normally operated between January 1990 and December 1990 and shows the temperature values for the commands that require input data. Changes from the normal operational modes were required to obtain calibration data. Table 6 lists the operational mode commands executed by the nonscanner instrument aboard the ERBS spacecraft during the period of this paper. Table 7 and table 8 list the same information for the instruments on the NOAA 9 and NOAA 10 spacecraft, respectively. The tables list each mode command executed, its hexadecimal command code, and the date and time of command execution (in hours, minutes, and seconds universal time (UT) and in minutes of universal day). Spacecraft yaw maneuvers of the ERBS spacecraft are also noted in table 6.

The nonscanner instrument on ERBS operated at an azimuth beam angle of 0° and at an elevation beam position of 0° (nadir). In this configuration the solar monitor assembly was normally on the Sun side of the orbit. Appendix C in reference 1 discusses ERBE data during typical periods of normal Earth-viewing operation.

All heaters and calibration sources on the spacecraft that are controlled by mode commands remained off during normal operations, except for the nonscanner detector heaters and the solar port heaters. Table 5 lists the normal status or positions of the power relays for the nonscanner instrument (On = closed; Off = open). The position of these relays, except for those marked with asterisks, are controlled by pulse discrete commands (table 3). The instrument power and either the pulse A or pulse B switches must be on for an instrument to respond to mode commands and to produce output data. The nonscanner calibration power must be on for the detector calibration mode command to activate the calibration heaters; therefore, the detector calibration power switch remained on at all times.

Power to the azimuth and elevation motors is controlled through the motor power bus relay by the azimuth and elevation mode commands, respectively. The azimuth motor power for the nonscanner instrument is turned on when a new azimuth mode command is executed and turned off when the rotation is completed. The elevation motor power for the nonscanner instrument is turned on and off in the same way by elevation mode commands.

Most of the in-flight instrument operational mode commands were associated with instrument calibrations (table 6). All internal calibrations and solar calibrations of the nonscanner instrument normally were performed at approximately the same time each Wednesday. Appendix A in reference 1 describes the preprogrammed, or automated, instrument calibration sequences used for the instrument on the ERBS spacecraft and explains how these sequences have been combined with additional commands to facilitate in-flight calibrations (ref. 1).

Table 9(a) lists some important characteristics of the ERBS spacecraft orbit on January 1, 1985 through 1990. The data for 1985 through 1989 are included to provide a continuity from the first year of operation. Although the ERBS spacecraft orbit is slightly elliptical, the resulting differences in minimum and maximum altitudes have not impacted the ERBE instrument data collection or mission operations. The −3.95° per day rotation rate of the right

ascension of the ascending node of the ERBS orbit produces β angles during the year that range from 10° to 170° (fig. 5(a)). This variation in β produces a wide range of heating conditions for the instruments. The effects of β on the ERBS mission operations and on the instrument housekeeping temperatures are discussed in the "Monitoring and Analysis of Instrument Housekeeping Measurements" section. A more general description of how β affects Sun angles at the spacecraft and on the Earth is given in appendix B of reference 1.

When the β angle of the ERBS orbit is between 10° and 90°, the Sun is on the left side of the orbit, looking downrange. Figure 4(a) (X-axis backward) illustrates the geometry for this case. The spacecraft positive X-axis points uprange along the negative velocity vector. When the β angle is between 90° and 170°, the Sun is on the right side of the orbit (X-axis forward), as illustrated in figure 4(a). In this case, the spacecraft positive X-axis is pointed downrange. When β approaches 90° from either direction, the ERBS spacecraft is yawed (rotated 180° about the Z- or nadir axis) to reposition the spacecraft solar panels to tilt to the Sun side of the orbit. Yaw maneuvers occur about every 36 days; date and time of the yaw turns are indicated in table 6. During these turns, the nonscanner instrument continues to operate in its normal mode. However, data acquired during the yaw turns are not included in the science data products because the locations of the measurements on the Earth are questionable. Annual and monthly β plots for the ERBS spacecraft orbit are shown in figures 5(a) and 6, respectively. Figure 5(b) shows annual β plots for the NOAA 9 spacecraft, and figure 5(c) shows the annual β plots for the NOAA 10 spacecraft. Figures 7 and 8 show the monthly β angles for NOAA 9 and NOAA 10, respectively.

Full-sun orbits occur in June and August, when the β angle is less than 24°, and in February and December, when the β angle is greater than 156°; at these times the ERBS spacecraft is in continuous sunlight. Regularly scheduled calibrations are not performed during the full-Sun periods; instead, calibrations are performed immediately prior to and after each full-Sun period. Because the Sun terminator is continuously in the limb-to-limb view of the Earth during these periods, the nonscanner WFOV detectors do not view any regions of the Earth which are totally illuminated or totally dark.

Monitoring and analysis of instrument housekeeping measurements. Instrument housekeeping measurements are monitored during real-time communication contacts with the spacecraft to ensure that the instrument is functioning normally. Because the ERBS spacecraft orbit produces a wide range of β angles, which causes the ERBE instrument onboard to experience large variations in heating and requires changes in normal operational

modes, monitoring the housekeeping measurements of this instrument is particularly important. In the real-time monitoring procedure, the housekeeping measurements are checked against both the yellow limits, which indicate that an instrument may be approaching a critical condition, and the red limits, which indicate that the instrument is at risk of being damaged.

An analysis of instrument housekeeping measurements has also been performed during the ERBE science data processing. This processing produces a complete history of the actual measured values of all housekeeping temperatures and voltages, and it accumulates the minimum, mean, and maximum values of all housekeeping measurements for each archived day. The processing includes testing the value of every housekeeping measurement to determine if the value is within specified limits and if its rate of change is less than a specified value. Values used to test the magnitudes and rate changes of selected housekeeping measurements of the instrument on the ERBS spacecraft are listed in table 10. These edit limits are significantly more restrictive than those used in the real-time monitoring process mentioned above. The more restrictive limits are used because the output of the radiometric detectors may be affected by temperature or voltage changes before the health of the instrument is actually threatened. The processing procedures identify (flag) the data values that exceed the input limits.

Figures 9 through 14 are plots of the daily minimum, mean, and maximum values of key housekeeping measurements for the ERBE instrument on the ERBS spacecraft for each day during the analysis period. The nonscanner heat sink and aperture temperatures are computed to a higher resolution than the plotted values, and this difference accounts for the appearance of the plotted values of these parameters. The computed resolutions of the nonscanner heat sink and aperture temperatures are 0.013°C and 0.010°C, respectively. Differences in the minimum, mean, and maximum values of a given housekeeping measurement on a given day were primarily due to in-orbit variations in Sun angles.

Day-to-day changes in values of the housekeeping measurements are primarily due to changes in the β angle. A discussion of the β angle and its effect on the operational environment is given in appendix B of reference 1. In general, housekeeping temperatures increased as β approached minimum and maximum extremes. When β is greater than 156° or less than 24°, the spacecraft is in continuous sunlight. At β = 156°, or at its supplement, β = 24°, the Sun is at the Earth's limb as viewed from the spacecraft, and the spacecraft will experience maximum heating conditions. Two separate geometries occur for these full-Sun conditions for the

ERBS spacecraft. During February and August, β stays near 156° (or 24°). During the full-Sun conditions of June and December, β passes quickly through 156° (or 24°), both before and after attaining extreme values of 170° (or 10°). During these periods, the heating effects of the orbit result in a distinct dog-ear (double maxima) appearance in the housekeeping plots. An additional description of the double maxima appearance is given in reference 1.

The heat sink, aperture, and field-of-view limiter temperatures of the nonscanner instrument all affect the radiometric output of the Earth-viewing detectors. The heat sink temperatures of the Earth-viewing detectors are tightly controlled, and the aperture temperatures of the Earth-viewing detectors are closely coupled to the heat sink temperatures; therefore, the effects of these temperatures are not modeled in the radiometric data-conversion algorithms. The field-of-view limiter temperatures of the nonscanner instrument are not controlled, but their values are accurately measured and are included in the radiometric data-conversion algorithms. When values of any of these measurements are flagged because they fail the edit limit tests, the corresponding radiometric data are rejected from further science data processing.

The heat sink temperatures varied only about 0.1°C during the period covered by this paper, except for a few days in February and one day in December (fig. 9). During these periods, when β ≈ 156°, the spacecraft was in a near full-sun orbit. Aperture temperatures varied by less than 0.6°C, with peaks occurring during periods of minimum or maximum β angles (fig. 10). Because the field-of-view limiter temperatures are not controlled, they show variations in temperature that are sensitive to β (fig. 11). The maximum values occur when β ≈ 24° or β ≈ 156°, when the Sun is very near the limb of the Earth.

Temperatures of the solar monitor heat sink and aperture (fig. 12) are not controlled, and their values are more variable than those of the Earth-viewing detectors. Therefore, the effects of the variation of the solar monitor temperatures are modeled in the radiometric data-conversion algorithms during processing of the data acquired during solar calibrations. However, because of the extreme heating conditions, calibrations are not performed during these full-Sun periods. Also, during the February, August, and December full-Sun periods, all solar monitor heat sink and aperture temperatures failed telemetry edit limits. This failure is seen in the figure 12 plots as steep-sided troughs because the edited measurements register zero when all values are flagged as bad.

The nonscanner blackbodies are used primarily during internal calibrations of the instruments, and variations in their temperatures do not affect the output of the radiometric detectors during normal operation (fig. 13).

The spikes seen on the blackbody plots indicate calibrations made when the blackbodies were turned on. The nonscanner electronic slice 3 and power converter temperatures (fig. 14) are used primarily in the real-time data monitoring procedures. The power converter temperature is classified as a passive measurement because it is available in the telemetry data stream even if the ERBE nonscanner instrument is powered off. These housekeeping temperatures are very sensitive to variations in β, and like the FOV limiter temperatures, their maximum values on ERBS correlate with the periods of β that produce full-Sun conditions. Both values show upward spikes that correlate with calibration days.

NOAA 9 Spacecraft

The NOAA 9 spacecraft and the ERBE nonscanner instrument aboard it are controlled and operated by the NOAA Satellite Operations and Control Center (SOCC) located in Suitland, Maryland. The operational status of the instruments and housekeeping measurements are monitored during real-time contacts with the spacecraft by SOCC personnel. A telecommunication link between LaRC and NOAA 9 spacecraft via the SOCC has permitted LaRC personnel to do limited real-time monitoring of the ERBE instrument operations and housekeeping data. This communication link has proved particularly useful when the resolution of spacecraft or instrument problems has required participation by LaRC personnel.

In-flight operations. The ERBE nonscanner instrument aboard the NOAA 9 spacecraft took Earth-viewing radiation measurements continuously, except during calibrations. Table 7 lists the operational mode commands executed by the ERBE instrument on the NOAA 9 spacecraft during 1990.

The NOAA 9 orbit is nearly Sun-synchronous, with a mean local time of about 17:06 (table 9). The value of β varied about 32° during the year (fig. 5(b)). On January 1, 1990, β was about 10° less than it had been a year earlier. Also, the local time of the ascending node was 49 minutes later on January 1, 1990 than it had been a year earlier. These differences result from a faster-than-nominal rate of change in the right ascension of the ascending node of the orbit, that is, faster than one which would maintain a Sun-synchronous orbit. The NOAA 9 in-orbit solar environment is generally more benign and much less variable than that for the ERBS spacecraft. However, in 1990 β was lower and more variable than in previous years. The spacecraft operated in full-Sun orbits, with β < 28°, from January 1 until May 10, and again from August 1 through the end of the year. The minimum β of 1.1° occurred in October. The extremely low β values (< 12°) in September, October, and November caused both operational and data

processing problems. Normal solar calibrations of the ERBE nonscanner instruments on the NOAA spacecraft cannot be performed when β is below 12°. NOAA 9 calibrations were suspended after September 12 until a modified calibration sequence could be implemented (table 11).

Table 5 lists the operational modes in which the nonscanner instrument aboard NOAA 9 normally operated between January and December 1990 and shows the temperature values for those commands that require input data. All heaters and calibration sources controlled by mode commands remained off during normal operation except for the nonscanner detector heaters and solar port heaters. Table 5 also lists the normal status of the power relays for the nonscanner instrument on the NOAA 9 spacecraft, which are the same as those for the nonscanner instrument on the ERBS spacecraft.

The nonscanner instrument normally operated at an azimuth beam angle of 170° and at an elevation beam position of 0°. This azimuth position was used to prevent Sun-glint interference with the Solar Backscatter Ultraviolet (SBUV) instrument. Beginning January 17, 1990, the frequency of calibrations of the ERBE nonscanner instrument was increased from every other week to every week, and the nonscanner azimuth beam was left at the Sun-look position after each solar calibration. As a result, the instrument operated at a different azimuth beam position each week. These azimuth positions are listed in the section entitled "Discussion and Analysis of Operations Month by Month." On September 28 the azimuth beam was rotated to 180° and remained there until December 11 because of the extremely low β angle of the orbit. The increased frequency of calibrations implemented in January 1990 was requested by the ERBE Science Team in order to obtain higher precision radiometric measurements from the WFOV and MFOV total channel detectors. These measurements are sensitive to variations in the thermal environment, and the increased calibration frequency was expected to improve the modeling of this sensitivity.

Beginning in June 1990, additional solar measurements were made on most Mondays and Fridays. The increased measurements were made to supplement the solar irradiance measurements made by the Nimbus 7 solar monitor after the Solar Maximum Mission (SMM) ended in December 1989. The additional ERBE solar measurements were not made earlier in the year because the NOAA 9 orbit geometry caused the spacecraft solar panels to obstruct the normal Sun view of the solar monitor, thus precluding good solar measurements. During solar calibrations, SOCC personnel changed the orientation of the NOAA 9 solar panels so that the instruments had a clear view of the Sun. By June, the orbit geometry

had changed such that the solar monitor and the solar ports had unobstructed views of the Sun without solar panel reorientation. The solar measurements were similar to solar calibrations, except that the instrument was left at the Earth-viewing elevation position so that only the solar monitor detector viewed the Sun. The azimuth beam was left at the Sun-look position after each Wednesday solar calibration. On Mondays and Fridays, at approximately the same universal time at which the Wednesday solar calibration was performed, the Solar Monitor Assembly (SMA) shutter was commanded open for approximately three orbits. The Sun-synchronous NOAA 9 orbital geometry allowed valid solar measurements to be made throughout the week without changing the azimuth beam position.

Most of the in-flight instrument operational mode commands were associated with instrument calibrations and solar measurements (table 7). Appendix A in reference 1 describes the preprogrammed (automated) nonscanner instrument calibration sequences and shows how these sequences have been combined with auxiliary commands to facilitate in-flight calibrations. Internal and solar calibrations were normally performed each Wednesday in 1990. The calibration sequence was modified on October 24, as shown in table 11.

Monitoring and analysis of instrument housekeeping measurements. Instrument housekeeping measurements are monitored during real-time communications contacts with the spacecraft to ensure that the instrument is functioning normally. In the real-time monitoring procedure, the housekeeping measurements are checked against both the yellow limits, which indicate that an instrument may be approaching a critical condition, and the red limits, which indicate that the instrument is at risk of being damaged.

Table 10 shows the values used in the science data processing at LaRC to test the magnitudes and rates of change of selected key housekeeping measurements of the nonscanner instrument on the NOAA 9 spacecraft. As with ERBS, these limits are much more restrictive than those used in the real-time monitoring.

Figures 15 through 20 are plots of the minimum, mean, and maximum values of key housekeeping measurements for the ERBE nonscanner instrument on the NOAA 9 spacecraft for each day during the analysis period. Differences in the minimum and maximum values of the housekeeping measurements during a given day are about the same as those for the instrument on the ERBS spacecraft and are due to in-orbit variation. Day-to-day variations in the values of the measurements are not nearly as large as those for the instrument on the

ERBS spacecraft because of the smaller variation in the β values (figs. 5 and 7).

The nonscanner heat sink temperatures, which are controlled by the instrument, varied by only about 0.1°C (fig. 15). Aperture temperatures, which closely follow the heat sink temperatures, varied by less than 0.4°C. Because the field-of-view limiter temperatures are not controlled, they show variations in temperatures that are sensitive to β (fig. 17). The downward spikes seen in the field-of-view limiter temperature figure are associated with calibrations. Because of extremely low β, no calibrations were performed between September 12 and October 24.

The solar monitor heat sink and aperture temperatures (fig. 18) are not controlled, and their values respond to the changing β. Maximum values of the temperatures occurred when β ≈ 28°. The spikes seen in the solar monitor temperature figure (fig. 18) starting from the beginning of June are associated with additional solar measurements performed each Monday and Friday. The bump that occurred in the latter part of September corresponds to a 5-day period when the SMA shutter was inadvertently left open. The nonscanner blackbody temperatures (fig. 19) also show a response to β. The spikes in these housekeeping measurements correspond to the periods when the blackbodies were turned on during internal calibrations. Since no calibrations were performed between September 12 and October 24, no spikes are seen during this period. The nonscanner electronic slice 3 and power converter temperatures (fig. 20) also show a response to β. Both plots show upward spikes that correspond to calibration days and additional solar measurement days.

NOAA 10 Spacecraft

The NOAA 10 spacecraft and the ERBE nonscanner instrument aboard it are controlled and operated by the NOAA SOCC located in Suitland, Maryland. The operational status of the instruments and housekeeping measurements are monitored during real-time contacts with the spacecraft by SOCC personnel. A telecommunication link between LaRC and the NOAA 10 spacecraft via the SOCC has permitted LaRC personnel to do limited real-time monitoring of the ERBE instrument operations and housekeeping data. This communication link has proved particularly useful when the resolution of spacecraft or instrument problems has required participation by LaRC personnel.

In-flight operations. The ERBE nonscanner instrument aboard the NOAA 10 spacecraft made Earth-viewing radiation measurements continuously, except during calibrations. Table 8 lists the operational mode

commands executed by the ERBE nonscanner instrument on the NOAA 10 spacecraft during 1990.

The NOAA 10 orbit is nearly Sun synchronous, with a mean local time of about 07:30 at the ascending node. This orbit resulted in relatively low β angles (fig. 5(c)) that caused the spacecraft to operate in full-Sun (β < 27°) during much of the year. Even so, the NOAA 10 in-orbit solar environment is generally more benign and less variable than that of the ERBS spacecraft. During 1990, β varied about 20°, from a low of about 18° in late February to a high of about 38° in mid-June.

Table 5 lists the operational modes in which the ERBE nonscanner instrument aboard the NOAA 10 spacecraft normally operated in 1990 and shows the data values used for the mode commands that required input data. All heaters and calibration sources controlled by mode commands remained off during normal operation, except for the nonscanner detector heaters and solar port heaters. Table 5 also lists the normal status of the power relays for the nonscanner instrument on the NOAA 10 spacecraft, which are the same as those for the nonscanner instrument on the ERBS spacecraft.

The nonscanner instrument operated in the Earth-viewing (nadir) elevation mode and at an azimuth angle of 180° except during periods of calibration. Beginning January 17, 1990, the frequency of calibration of the ERBE nonscanner instrument was increased from every other week to every week, and the nonscanner azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth beam position each week. These azimuth positions are listed in the section entitled "Discussion and Analysis of Operations Month by Month." Leaving the azimuth bean in the Sun-look position after each solar calibration enabled the solar monitor detector to view the Sun during every orbit, since the SMA shutter is stuck in the open position (ref. 3). The β angle of the NOAA 10 orbit varied slowly enough for valid solar measurements to be made throughout the week without changing the azimuth beam position. The increased frequency of calibrations implemented in January 1990 was requested by the ERBE Science Team in order to obtain higher precision radiometric measurements from the WFOV and MFOV total channel detectors. These measurements are sensitive to variations in the thermal environment, and the increased calibration frequency was expected to improve the modeling of this sensitivity. The increased solar measurements supplemented the solar irradiance measurements made by the Nimbus 7 solar monitor after the SMM ended in December 1989. However, the NOAA 10 ERBE solar measurements were degraded because the SMA chopper was not operational.

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Most in-flight instrument operational mode commands were associated with instrument calibrations (table 8). Appendix A of reference 1 describes the preprogrammed (automated) nonscanner instrument calibration sequences and explains how these sequences have been combined with auxiliary commands to facilitate in-flight calibrations. Internal and solar calibrations of the nonscanner instrument were normally performed each Wednesday in 1990.

Monitoring and analysis of instrument housekeeping measurements. Instrument housekeeping measurements are monitored during real-time communication contacts with the spacecraft to ensure that the instrument is functioning normally. In the real-time monitoring procedure, the housekeeping measurements are checked against both the yellow limits, which indicate that an instrument may be approaching a critical condition, and the red limits, which indicate that the instrument is at risk of being damaged.

Table 10 shows the values used in the science data processing at LaRC to test the magnitudes and rates of change of selected housekeeping measurements of the instrument on the NOAA 10 spacecraft. As with ERBS and NOAA 9, these limits are much more restrictive than those used in real-time monitoring.

Figures 21 through 26 are plots of the daily minimum, mean, and maximum values of key housekeeping measurements for the ERBE instrument on the NOAA 10 spacecraft for each day during the analysis period. Differences in the minimum and maximum values of the housekeeping measurements on a given day are about the same as those for the instrument on the ERBS spacecraft and were primarily due to in-orbit variations in Sun angles. Day-to-day variations in the values of the measurements are not nearly as large as those for the instrument on the ERBS spacecraft because of the smaller variation in the values of β (figs. 5 and 8).

The nonscanner heat sink temperatures, which are controlled by the instrument, varied only about 0.1°C (fig. 21). Aperture temperatures, which closely follow the heat sink temperatures, varied by less than 0.4°C (fig. 22). Since the field-of-view limiter temperatures are not controlled, they show variations in temperatures that are sensitive to β (fig. 23). The downward spikes seen in the field-of-view limiter temperature figures are associated with calibrations.

The solar monitor heat sink and aperture temperatures (fig. 24) are not controlled, and their values respond to the changing β angle. Maximum values of the temperatures occurred when $\beta \approx 27°$. The nonscanner blackbody temperatures (fig. 25) also show a response to β. The large upward spikes in these housekeeping measure-

ments correspond to the periods when the blackbodies were turned on during internal calibrations. The nonscanner electronic slice 3 and power converter temperatures (fig. 26) also show temperature increases that correspond to β-related heating. Both values show upward spikes associated with calibrations.

Discussion and Analysis of Operations Month by Month

Introduction

This section discusses spacecraft and instrument operations for the ERBS, the NOAA 9, and the NOAA 10 spacecraft separately for each month, beginning with January 1990 and continuing through December 1990. During most of this time, the instruments were in their normal operating modes. The discussion addresses percentage of archived data (table 1), β angles (figs. 5 through 8), spacecraft maneuvers (tables 1, 6, 7, and 8), instrument calibrations (tables 1, 6, 7, and 8), and other instrument operations (tables 1, 6, 7, and 8).

Table 1 summarizes spacecraft and instrument operations for each spacecraft for each month and also gives the percentage of data for both the ID1N and S-7 products. The percentage of archived data for the S-7 product is actually the percentage of 16-second records that are archived. An archived record can contain fill and/or poor quality data that are flagged as bad. However, the percentage of archived data is usually a good approximation of the percentage of usable data, particularly for data from the ERBS spacecraft.

Differences between the ID1N and S-7 data percentages arise because of data quality problems and because of constraints imposed on the data archived to the S-7. These constraints require that (1) the instrument power be on, (2) the instrument be in the Earth-viewing elevation mode, and (3) the instrument not be in solar or internal calibration mode. Data recovery was nearly always greater from the ERBS spacecraft than from the NOAA spacecraft. The losses in data recovery, as well as the larger differences between the NOAA 9 and the NOAA 10 ID1N and S-7 data percentages, as compared to the ERBS data percentages, occur because of less efficient data processing procedures at NOAA. These less efficient procedures at NOAA reflect that the NOAA spacecraft are operational weather satellites, whereas ERBS is dedicated to the ERBE and SAGE II instruments.

Data quality problems are rarely encountered in the ERBS data, as is reflected in the small differences, generally less than 3 percent, between the percentages of data written to the ERBS ID1N and S-7 products. On days

when ERBS spacecraft yaw maneuvers are performed, differences are generally about 4 percent because some data collected during these maneuvers do not meet the constraints listed above. On calibration days, differences are generally on the order of 22 percent for the ERBS data and 30 to 35 percent for the NOAA data because most of the data collected during the calibrations do not meet the constraints identified above. The combined internal and solar calibration sequences performed on the nonscanner instruments on the NOAA spacecraft in 1990 lasted approximately 10 hours, with the instrument not in the Earth-viewing elevation mode for approximately 8 of those hours, or for about 32 percent of the day. The calibration sequence implemented on the ERBS spacecraft nonscanner instrument was shorter, lasting approximately 7 hours, with the instrument not in the Earth-viewing elevation mode for approximately 5 hours, or about 20 percent of the day. The calibration sequences differed in length between the ERBS and NOAA spacecraft because of timing differences in the command uploading procedures. Also, the azimuth angle uploads were executed prior to the calibrations performed on the ERBS nonscanner instrument, and during the calibrations performed on the NOAA nonscanner instruments.

The data percentages listed in the corresponding tables in references 1, 2, and 3 show a much smaller difference between the percentages archived to the raw archival tape (RAT) and the processed archival tape (PAT) products because each record in these products includes both scanner and nonscanner data, and a record was written to the PAT product as long as it contained at least one good scanner or nonscanner measurement. The scanner calibrations were much shorter, approximately one hour for the combined internal-solar calibration, than were the nonscanner calibrations. A record that contained nonscanner calibration data along with scanner Earth-viewing data would have been written to the PAT product but not to the S-7 product, so that the PAT product contained more data records than the corresponding S-7 product.

All operational mode commands executed by the nonscanner instruments on the ERBS, the NOAA 9, and the NOAA 10 spacecraft from January 1990 through December 1990 are listed in tables 6, 7 and 8, respectively. These tables are based on the command echo word from the telemetry data processing, which is an echo of the last command executed by the instrument. Occasionally, a data dropout will obscure a command that was actually received and executed by the instrument so that the commands listed in tables 6 through 8 may not exactly reflect instrument operations. Such discrepancies are noted in the text and tables. Figure 5 shows the β angles for ERBS, NOAA 9, and NOAA 10 for the entire year. Figures 6 through 8 show the β angles

for each month covered in this discussion. Figures 9 through 26 show the responses of instrument housekeeping temperatures and voltages to the operations discussed in this section, as well as the effects of changes in Earth-Sun spacecraft geometry.

ERBS Spacecraft Operations

ERBS spacecraft—January 1990. In January 1990 the percentage of data written to the ID1N was 99.99 and the percentage of data archived to the S-7 was 97.73. (See table 1(a).) The β angle decreased from about 77° at the beginning of the month to about 55° on January 12, and then increased to about 104° by January 31. (See figs. 5 and 6.) The spacecraft was configured with its X-axis negative from the beginning of the month until 18:50 UT on January 25 when a 180° yaw maneuver was performed. The spacecraft operated with its X-axis positive for the remainder of the month.

The nonscanner instrument operated in the normal Earth-viewing elevation mode and at the normal azimuth position of 0° throughout the month except during calibrations. Successful internal and solar calibrations of the nonscanner instrument were performed on January 3, 17, and 31.

ERBS spacecraft—February 1990. In February 1990 the percentage of data written to the ID1N was 99.99 and the percentage of data archived to the S-7 was 97.61. (See table 1(b).) The β angle increased from about 108° at the beginning of the month to about 159° on February 17, and then decreased to about 123° by the end of the month. (See figs. 5 and 6.) The spacecraft was in or near a full-Sun condition from about February 13 until about February 20. The spacecraft was configured with its X-axis positive for the entire month.

The nonscanner instrument operated in the normal Earth-viewing elevation mode and at the normal azimuth position of 0° throughout the month except during calibrations. Several nonscanner housekeeping temperatures increased significantly during the full-Sun period of February 13 through 20, but no temperatures rose above critical levels. Successful internal and solar calibrations of the nonscanner instrument were performed on February 11, 23, and 28.

ERBS spacecraft—March 1990. In March 1990 the percentage of data written to the ID1N was 99.98 and the percentage of data archived to the S-7 was 98.33. (See table 1(c).) The β angle decreased from about 120° at the beginning of the month to about 31° on March 26, and then increased to about 38° by the end of the month. (See figs. 5 and 6.) The spacecraft was configured with its X-axis positive from the beginning of the month until

19:06 UT on March 6 when a 180° yaw maneuver was performed. The spacecraft operated with its X-axis negative for the remainder of the month.

The nonscanner instrument operated in the normal Earth-viewing elevation mode and at the normal azimuth position of 0° throughout the month except during calibrations. Successful internal and solar calibrations of the nonscanner instrument were performed on March 14 and 28.

ERBS spacecraft—April 1990. In April 1990 the percentage of data written to the ID1N was 99.83 and the percentage of data archived to the S-7 was 98.15. (See table 1(d).) The β angle increased from about 41° at the beginning of the month to about 132° by the end of the month. (See figs. 5 and 6.) The spacecraft was configured with its X-axis negative from the beginning of the month until 18:33 UT on April 11 when a 180° yaw maneuver was performed. The spacecraft operated with its X-axis positive for the remainder of the month.

The nonscanner instrument operated in the normal Earth-viewing elevation mode and at the normal azimuth position of 0° throughout the month except during calibrations. Successful internal and solar calibrations were performed on April 11 and 25.

ERBS spacecraft—May 1990. In May 1990 the percentage of data written to the ID1N was 99.92 and the percentage of data archived to the S-7 was 97.54. (See table 1(e).) The β angle decreased from about 132° at the beginning of the month to a minimum of about 31° by the end of the month. (See figs. 5 and 6.) The spacecraft was configured with its X-axis positive from the beginning of the month until 17:24 UT on May 15 when a 180° yaw maneuver was performed. The spacecraft operated with its X-axis negative for the remainder of the month.

The nonscanner instrument operated in the normal Earth-viewing elevation mode and at the normal azimuth position of 0° throughout the month except during calibrations. Several nonscanner housekeeping temperatures increased at the end of the month because of the low β angle, although the spacecraft did not enter full-Sun conditions. No temperatures rose above critical levels. Successful internal and solar calibrations of the nonscanner instrument were performed on May 9, 24, and 30.

ERBS spacecraft—June 1990. In June 1990 the percentage of data written to the ID1N was 97.26 and the percentage of data archived to the S-7 was 95.55. (See table 1(f).) The β angle decreased from about 27° at the beginning of the month to about 10° on June 7, and then increased to about 98° by the end of the month. (See figs. 5 and 6.) The spacecraft operated under full-Sun

conditions from June 1 through June 13. The spacecraft was configured with its X-axis negative from the beginning of the month until 17:59 UT on June 27 when a 180° yaw maneuver was performed. The spacecraft operated with its X-axis positive for the remainder of the month.

The nonscanner instrument operated in the normal Earth-viewing elevation mode and at the normal azimuth position of 0° throughout the month except during calibrations. Several nonscanner housekeeping temperatures increased significantly during the full-Sun period of June 1 through June 13, but no temperatures rose above critical levels. Successful internal and solar calibrations of the nonscanner instrument were performed on June 14 and 20.

ERBS spacecraft—July 1990. In July 1990 the percentage of data written to the ID1N was 100.00 and the percentage of data archived to the S-7 was 97.95. (See table 1(g).) The β angle increased from about 102° at the beginning of the month to about 125° on July 13, and then decreased to about 79° by the end of the month. (See figs. 5 and 6.) The spacecraft was configured with its X-axis positive from the beginning of the month until 19:15 UT on July 26 when a 180° yaw maneuver was performed. The spacecraft operated with its X-axis negative for the remainder of the month.

The nonscanner instrument operated in the normal Earth-viewing elevation mode and at the normal azimuth position of 0° throughout the month except during calibrations. Successful internal and solar calibrations of the nonscanner instrument were performed on July 4 and 18.

ERBS spacecraft—August 1990. In August 1990 the percentage of data written to the ID1N was 99.97 and the percentage of data archived to the S-7 was 97.11. (See table 1(h).) The β angle decreased from about 75° at the beginning of the month to about 20° on August 18, and then increased to about 64° by the end of the month. (See figs. 5 and 6.) The spacecraft operated under full-Sun conditions from August 13 through August 22. The spacecraft was configured with its X-axis negative for the entire month.

The nonscanner instrument operated in the normal Earth-viewing elevation mode and at the normal azimuth position of 0° throughout the month except during calibrations. Several nonscanner housekeeping temperatures increased significantly during the full-Sun period of August 13 through August 22, but no temperatures rose above critical levels. Successful internal and solar calibrations of the nonscanner instrument were performed on August 1, 12, 24, and 29.

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ERBS spacecraft—September 1990. In September 1990 the percentage of data written to the ID1N was 100.00 and the percentage of data archived to the S-7 was 98.39. (See table 1(i).) The β angle increased from about 68° at the beginning of the month to about 148° on September 24, and then decreased to about 139° by the end of the month. (See figs. 5 and 6.) The spacecraft was configured with its X-axis negative from the beginning of the month until 19:16 UT on September 5 when a 180° yaw maneuver was performed. The spacecraft operated with its X-axis positive for the remainder of the month.

The nonscanner instrument operated in the normal Earth-viewing elevation mode and at the normal azimuth position of 0° throughout the month except during calibrations. Successful internal and solar calibrations of the nonscanner instrument were performed on September 12 and 26.

ERBS spacecraft—October 1990. In October 1990 the percentage of data written to the ID1N was 100.00 and the percentage of data archived to the S-7 was 98.37. (See table 1(j).) The β angle decreased from about 136° at the beginning of the month to about 47° on October 30, and then increased to about 48° by the end of the month. (See figs. 5 and 6.) The spacecraft was configured with its X-axis positive from the beginning of the month until 18:30 UT on October 12 when a 180° yaw maneuver was performed.The spacecraft operated with its X-axis negative for the remainder of the month.

The nonscanner instrument operated in the normal Earth-viewing elevation mode and at the normal azimuth position of 0° throughout the month except during calibrations. Several nonscanner housekeeping temperatures increased significantly during the high β-angle period, but no temperatures rose above critical levels. Successful internal and solar calibrations of the nonscanner instrument were performed on October 10 and 24.

ERBS spacecraft—November 1990. In November 1990 the percentage of data written to the ID1N was 99.99 and the percentage of data archived to the S-7 was 97.63. (See table 1(k).) The β angle increased from about 48° to about 153° by the end of the month. (See figs. 5 and 6.) The spacecraft operated in full Sun on November 30. The spacecraft was configured with its X-axis negative from the beginning of the month until 18:36 UT on November 14 when a 180° yaw maneuver was performed. The spacecraft operated with its X-axis positive for the remainder of the month.

The nonscanner instrument operated in the normal Earth-viewing elevation mode and at the normal azimuth position of 0° throughout the month except during cali-

brations. Several nonscanner housekeeping temperatures increased on November 30 as the spacecraft entered a full-Sun orbit, but no temperatures rose above critical levels. Successful internal and solar calibrations of the nonscanner instrument were performed on November 7, 21, and 28.

ERBS spacecraft—December 1990. In December 1990, the percentage of data written to the ID1N was 99.98 and the percentage of data archived to the S-7 was 98.38. (See table 1(l).) The β angle increased from about 157° at the beginning of the month to about 169° on December 6, and then decreased to about 74° by the end of the month. (See figs. 5 and 6.) The spacecraft was in full-Sun conditions from the beginning of the month through December 12. The spacecraft was configured with its X-axis positive from the beginning of the month until 20:12 UT on December 26 when a 180° yaw maneuver was performed. The spacecraft operated with its X-axis negative for the remainder of the month.

The nonscanner instrument operated in the normal Earth-viewing elevation mode and at the normal azimuth position of 0° throughout the month except during calibrations. Several nonscanner housekeeping temperatures increased during the full-Sun period, but no temperatures rose above critical levels. Successful internal and solar calibrations of the nonscanner instrument were performed on December 13 and 19.

NOAA 9 Spacecraft Operations

NOAA 9 spacecraft—January 1990. In January 1990 the percentage of data written to the ID1N was 91.81 and the percentage of data archived to the S-7 was 75.76. (See table 1(a).) The β angle decreased from 19.4° at the beginning of the month to 17.2° by the end of the month. (See figs. 5 and 7.) The spacecraft operated under full-Sun conditions for the entire month, during which time the β angle was less than 30°. Due to the low β angle, the spacecraft operated in yaw gyrocompass (YGC) attitude control mode from January 25 through the end of the month.

The nonscanner instrument operated in the normal Earth-viewing mode for the entire month except during calibrations. Before January 17, the instrument operated in the normal Earth-viewing elevation mode and the azimuth beam operated at 170°. Beginning on January 17, the azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth position each week. The azimuth positions for the month of January were

Date	Azimuth position, deg
January 1–17	170.03
January 17–24	165.53
January 24–31	166.42
January 31–31	167.48

Successful internal and solar calibrations of the nonscanner instrument were performed on January 3, 17, and 24. A successful internal calibration was also performed on January 31. The solar calibration performed on that day was obscured by fill data and extensive data dropouts.

NOAA 9 spacecraft—February 1990. In February 1990 the percentage of data written to the ID1N was 94.43 and the percentage of data archived to the S-7 was 84.72. (See table 1(b).) The β angle decreased from 17.1° at the beginning of the month to 14.2° by the end of the month. (See figs. 5 and 7.) The spacecraft operated under full-Sun conditions for the entire month. Due to the low β angle, the spacecraft operated in YGC attitude control mode for the entire month.

The nonscanner instrument operated in the normal Earth-viewing elevation mode for the entire month except during calibrations. The nonscanner azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth position each week. The azimuth positions for the month of February were

Date	Azimuth position, deg
February 1–7	167.48
February 7–14	168.83
February 14–21	170.18
February 21–28	171.38

Successful internal and solar calibrations of the nonscanner instrument were performed on February 7, 14, 21, and 28.

NOAA 9 spacecraft—March 1990. In March 1990 the percentage of data written to the ID1N was 93.39 and the percentage of data archived to the S-7 was 87.67. (See table 1(c).) No data were received from NOAA for March 29. Excluding that day, the percentage of data written to the ID1N was 96.51 and the percentage of data archived to the S-7 was 90.59. The β angle decreased from 14.2° at the beginning of the month to a low of 14.1° on March 5, and then increased to 17.3° by the end of the month. (See figs. 5 and 7.) The spacecraft operated

under full-Sun conditions for the entire month. Due to the low β angle, the spacecraft operated in YGC attitude control mode for the entire month.

The nonscanner instrument operated in the normal Earth-viewing mode for the entire month except during calibrations. The nonscanner azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth position each week. The azimuth positions for the month of March were

Date	Azimuth position, deg
March 1–7	172.28
March 7–14	172.43
March 14–21	171.68
March 21–28	170.25
March 28–31	168.30

Successful internal and solar calibrations of the nonscanner instrument were performed on March 14, 21, and 28. A successful solar calibration was also performed on March 7. The entire internal calibration on that day was lost because of data dropout.

NOAA 9 spacecraft—April 1990. In April 1990 the percentage of data written to the ID1N was 93.22 and the percentage of data archived to the S-7 was 85.53. (See table 1(d).) The β angle increased from 17.5° at the beginning of the month to 25.3° by the end of the month. (See figs. 5 and 7.) The spacecraft operated under full-Sun conditions for the entire month. Due to the low β angle, the spacecraft operated in YGC attitude control mode from April 1 through April 10.

The nonscanner instrument operated in the normal Earth-viewing mode for the entire month except during calibrations. The nonscanner azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth position each week. The azimuth positions for the month of April were

Date	Azimuth position, deg
April 1–4	168.30
April 4–11	166.05
April 11–18	163.73
April 18–25	161.40
April 25–30	159.08

Successful internal and solar calibrations of the nonscanner instrument were performed on April 11, 18, and 25. A successful internal calibration was also performed on

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April 4. The solar calibration on that day was partially obscured by a large data dropout. Several housekeeping temperatures increased during this period but did not reach critical limits.

NOAA 9 spacecraft—May 1990. In May 1990 the percentage of data written to the ID1N was 94.13 and the percentage of data archived to the S-7 was 83.08. (See table 1(e).) The β angle increased from 25.5° at the beginning of the month to 31.9° at the end of the month. (See figs. 5 and 7.) The spacecraft was at or near full-Sun conditions from May 1 through May 20.

The nonscanner instrument operated in the normal Earth-viewing mode for the entire month except during calibrations. The nonscanner azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth position each week. The azimuth positions for the month of May were

Date	Azimuth position, deg
May 1–2	159.08
May 2–9	156.98
May 9–16	154.95
May 16–23	153.15
May 23–30	151.65
May 30–31	150.38

Successful internal and solar calibrations of the nonscanner instrument were performed on May 2, 9, 16, 23, and 30. Some of the calibration commands on May 9 and 23 were partially obscured by data dropout. Several housekeeping temperatures increased during this period but did not reach critical limits.

NOAA 9 spacecraft—June 1990. In June 1990 the percentage of data written to the ID1N was 90.45 and the percentage of data archived to the S-7 was 78.64. (See table 1(f).) No data are available for June 15 because the level 0 data were corrupted during storage. Excluding that day, the percentage of data written to the ID1N was 93.57 and the percentage of data archived to the S-7 was 81.35. The β angle increased from 32.0° at the beginning of the month to 33.4° on June 21 (this was the maximum β angle for the year), and then decreased to 33.2° by the end of the month. (See figs. 5 and 7.)

The nonscanner instrument operated in the normal Earth-viewing mode for the entire month except during calibrations. The nonscanner azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth position each week. The azimuth positions for the month of June were

Date	Azimuth position, deg
June 1–6	150.38
June 6–13	149.48
June 13–20	148.88
June 20–27	148.58
June 27–30	148.73

Successful internal and solar calibrations of the nonscanner instrument were performed on June 13, 20, and 27. A successful solar calibration was also performed on June 6. The internal calibration on that day appeared good. However, telemetry processing indicated that the spacecraft central processing unit (CPU) was not in control; hence, the data were suspect and not usable. June was the first month that additional solar measurements were performed on the NOAA 9 spacecraft. These measurements were performed every Monday and Friday in June. During solar measurements, the SMA shutter was commanded open for about 220 minutes (approximately three orbits).

NOAA 9 spacecraft—July 1990. In July 1990 the percentage of data written to the ID1N was 93.01 and the percentage of data archived to the S-7 was 82.16. (See table 1(g).) The β angle decreased from 33.1° at the beginning of the month to 28.3° at the end of the month. (See figs. 5 and 7.) The spacecraft was at or near full-Sun condition from July 24 through July 31.

The nonscanner instrument operated in the normal Earth-viewing mode for the entire month except during calibrations. The nonscanner azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth position each week. The azimuth positions for the month of July were

Date	Azimuth position, deg
July 1–4	148.73
July 4–11	149.18
July 11–18	149.93
July 18–25	151.13
July 25–31	152.63

Successful internal calibrations of the nonscanner instrument were performed on July 4, 11, and 25. The end of the internal calibration was obscured by a data dropout on July 18. Successful solar calibrations of the nonscanner instrument were performed on July 4, 18, and 25. The beginning of the solar calibration was obscured by a data dropout on July 11. Some of the solar calibration commands for July 4 were obscured by fill data. Additional solar measurements were performed every Monday and Friday in July.

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NOAA 9 spacecraft—August 1990. In August 1990 the percentage of data written to the ID1N was 96.69 and the percentage of data archived to the S-7 was 88.60. (See table 1(h).) The β angle decreased from 28.2° at the beginning of the month to 18.3° at the end of the month. (See figs. 5 and 7.) The spacecraft operated under full-Sun conditions for the entire month. Due to the low β angle, the spacecraft operated in YGC attitude control mode from August 23 through the end of the month.

The nonscanner instrument operated in the normal Earth-viewing mode for the entire month except during calibrations. The nonscanner azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth position each week. The azimuth positions for the month of August were

Date	Azimuth position, deg
August 1	152.63
August 1–8	154.50
August 8–15	156.60
August 15–22	159.08
August 22–29	161.93
August 29–31	165.08

Successful internal and solar calibrations of the nonscanner instrument were performed on August 1, 8, 15, 22, and 29. Additional solar measurements were performed on every Monday and Friday in the month. Several housekeeping temperatures increased during this period but did not reach critical limits.

NOAA 9 spacecraft—September 1990. In September 1990 the percentage of data written to the ID1N was 96.52 and the percentage of data archived to the S-7 was 91.29. (See table 1(i).) The β angle decreased from 18.0° at the beginning of the month to 6.4° at the end of the month. (See figs. 5 and 7.) The spacecraft operated under full-Sun conditions for the entire month. Due to the low β angle, the spacecraft operated in YGC attitude control mode for the entire month.

The nonscanner instrument operated in the normal Earth-viewing mode for the entire month except during calibrations. The nonscanner azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth position each week. The azimuth positions for the month of September were

Date	Azimuth position, deg
September 1–5	165.08
September 5–12	168.75
September 12–28	173.40
September 28–30	180.00

Because of the extremely low β angles during the second half of this month (<12°), the nonscanner internal and solar calibrations were performed only on September 5 and 12. On September 12 the entire internal calibration sequence was obscured by a 5-hour data dropout. All other calibrations were successful. Additional solar measurements were performed on September 3, 7, 10, 14, and 28. In addition, the SMA shutter was commanded open on September 21, and remained open until September 25. During the solar measurements on September 28, the azimuth beam was rotated to a position of 180°.

NOAA 9 spacecraft—October 1990. In October 1990 the percentage of data written to the ID1N was 94.64 and the percentage of data archived to the S-7 was 91.48. (See table 1(j).) The β angle decreased from 6.0° at the beginning of the month to 1.1° on October 16 (this was the minimum β angle for the year) and then increased to 5.4° by the end of the month. (See figs. 5 and 7.) The spacecraft operated under full-Sun conditions for the entire month. Due to the low β angle, the spacecraft operated in YGC attitude control mode for the entire month.

The nonscanner instrument operated in the normal Earth-viewing mode for the entire month except during calibrations. The azimuth beam remained at a position of 180° for the entire month of October. Because of the extremely low β angles at that time (<12°), a new calibration sequence, which is listed in table 11, was implemented for this instrument. The major differences from the old sequence were that the first and last calibration heater on-off sequences were not performed, the calibration heater on-off sequence immediately following the solar calibration was not performed, and the SMA shutter was left open two hours for the solar calibration. Successful internal calibrations of the nonscanner instrument were performed on October 24 and 31. This was the first calibration performed since September 12. Nonscanner solar calibrations were not attempted on those days. Because of the extremely low β angle, the Sun was below the horizon of the detectors during these periods.

NOAA 9 spacecraft—November 1990. In November 1990, the percentage of data written to the ID1N was 89.41 and the percentage of data archived to the S-7 was 83.03. (See table 1(k).) The β angle increased from 5.7° at the beginning of the month to 12.6° by the end of the month. (See figs. 5 and 7.) The spacecraft operated under full-Sun conditions for the entire month. Due to the low β angle, the spacecraft operated in YGC attitude control mode for the entire month.

The nonscanner instrument operated in the normal Earth-viewing mode for the entire month except during calibrations. The azimuth beam remained at 180° for the

entire month of November. Because of the extremely low β angles, the new calibration sequence continued to be used for the calibrations. Successful internal calibrations of the nonscanner instrument were performed on November 7, 14, 21, and 28. Nonscanner solar calibrations were not attempted on those days because the Sun was below the horizon of the detectors during these periods. Additional solar measurements were performed every Monday and Friday after November 7. The SMA shutter was not commmanded off after the solar measurements on November 26 until the following day.

NOAA 9 spacecraft—December 1990. In December 1990 the percentage of data written to the ID1N was 85.82 and the percentage of data archived to the S-7 was 78.77. (See table 1(l).) No data were received from NOAA for December 17 and 20. Excluding these two days, the percentage of data written to the ID1N was 91.74 and the percentage of data archived to the S-7 was 84.20. The β angle increased from 12.8° at the beginning of the month to a high of 14.3° on December 21, and decreased to 13.9° by the end of the month. (See figs. 5 and 7.) The spacecraft operated under full-Sun conditions for the entire month. Due to the low β angle, the spacecraft operated in YGC attitude control mode for the entire month.

The nonscanner instrument operated in the normal Earth-viewing mode for the entire month except during calibrations. The azimuth beam remained at 180° from December 1 through December 12. After December 12, the nonscanner azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth position each week. The azimuth positions for the month of December were

Date	Azimuth position, deg
December 1–12	180.00
December 12–18	172.80
December 18–26	172.20
December 26–31	172.35

Because of low β angles, the new calibration sequence continued to be used but with azimuth rotation implemented prior to execution of the calibration sequence. Successful internal calibrations of the non-scanner instrument were performed on December 5, 12, 19, and 26. A successful solar calibration was also performed on December 12. This was the first successful solar calibration since September 12, 1990. The nonscanner solar calibration performed on December 19 was obscured by a data dropout. Additional solar measurements were performed every Monday and Friday in December.

NOAA 10 Spacecraft Operations

NOAA 10 spacecraft—January 1990. In January 1990 the percentage of data written to the ID1N was 95.72 and the percentage of data archived to the S-7 was 89.70. (See table 1(a).) The β angle decreased from 25.0° at the beginning of the month to 20.2° by the end of the month. (See figs. 5 and 8.) The spacecraft operated under full-Sun conditions for the entire month of January. The spacecraft operated in YGC attitude control mode from January 25 through January 27.

Before January 17, the instrument operated in the normal Earth-viewing elevation mode and the azimuth beam operated at 180°. Starting on January 17, the azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth position each week. The azimuth positions for the month of January were

Date	Azimuth position, deg
January 1–17	180.00
January 17–25	160.88
January 25–31	162.38
January 31–31	163.72

Successful internal and solar calibrations of the nonscanner instrument were performed on January 3, 17, 24, and 31.

NOAA 10 spacecraft—February 1990. In February 1990 the percentage of data written to the ID1N was 96.22 and the percentage of data archived to the S-7 was 89.92. (See table 1(b).) The β angle decreased from 20.0° at the beginning of the month to a low of 18.2° on February 22, and then increased to 18.5° by the end of the month. (See figs. 5 and 8.) The spacecraft operated under full-Sun conditions for the entire month of February.

The nonscanner instrument operated in the normal Earth-viewing elevation mode for the entire month except during calibrations. The nonscanner azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth position each week. The azimuth positions for the month of February were

Date	Azimuth position, deg
February 1–7	163.73
February 7–14	164.93
February 14–21	165.75
February 21–28	166.13
February 28–28	165.90

Successful internal and solar calibrations of the nonscanner instrument were performed on February 7 and 21. A successful internal calibration was performed on February 14. However, the solar calibration performed on this day was obscured by extensive data dropouts. The beginning of the internal calibration performed on February 28 was obscured by a data dropout. The solar calibration performed on February 28 was successful.

NOAA 10 spacecraft—March 1990. In March 1990 the percentage of data written to the ID1N was 97.87 and the percentage of data archived to the S-7 was 93.56. (See table 1(c).) The β angle increased from 18.5° at the beginning of the month to 24.1° by the end of the month. (See figs. 5 and 8.) The spacecraft operated under full-Sun conditions for the entire month of March.

The nonscanner instrument operated in the normal Earth-viewing elevation mode for the entire month except during calibrations. The nonscanner azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth position each week. The azimuth positions for the month of March were

Date	Azimuth position, deg
March 1–7	165.90
March 7–14	165.00
March 14–21	163.65
March 21–28	161.85
March 28–31	159.83

Successful internal and solar calibrations of the nonscanner instrument were performed on March 7, 14, 21, and 28. Some of the commands for the solar calibration on March 7 were obscured because of a data dropout.

NOAA 10 spacecraft—April 1990. In April 1990 the percentage of data written to the ID1N was 95.47 and the percentage of data archived to the S-7 was 90.03. (See table 1(d).) The β angle increased from 24.3° at the beginning of the month to 32.0° by the end of the month. (See figs. 5 and 8.) The spacecraft operated under full-Sun conditions from April 1 through April 22.

The nonscanner instrument operated in the normal Earth-viewing elevation mode for the entire month except during calibrations. The nonscanner azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth position each week. The azimuth positions for the month of April are shown in the next table.

Successful internal and solar calibrations of the nonscanner instrument were performed on April 4, 11, and 25. A

Date	Azimuth position, deg
April 1–4	159.83
April 4–11	157.73
April 11–18	155.55
April 18–25	153.45
April 25–30	151.43

successful internal calibration was also performed on April 18. The solar calibration performed on this day was successful; however, because the CPU was flagged as not in control during the azimuth rotation prior to the solar calibration, all data after the azimuth rotation were flagged bad. Hence the solar calibration data are not usable.

NOAA 10 spacecraft—May 1990. In May 1990 the percentage of data written to the ID1N was 93.45 and the percentage of data archived to the S-7 was 85.43. (See table 1(e).) No data were received from NOAA for May 6. Excluding this day, the percentage of data written to the ID1N was 96.57 and the percentage of data archived to the S-7 was 88.28. The β angle increased from 32.2° at the beginning of the month to 37.2° by the end of the month. (See figs. 5 and 8.) There were no periods during May when the spacecraft was in full sunlight for an entire orbit.

The nonscanner instrument operated in the normal Earth-viewing elevation mode for the entire month except during calibrations. The nonscanner azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth position each week. The azimuth positions for the month of May were

Date	Azimuth position, deg
May 1–2	151.43
May 2–9	149.63
May 9–16	147.98
May 16–23	146.55
May 23–30	145.50
May 30–31	144.60

Successful internal and solar calibrations of the nonscanner instrument were performed on May 2, 16, 23, and 30. The internal calibration on May 9 was partially obscured by a data dropout. The solar calibration for May 9 was successful.

NOAA 10 spacecraft—June 1990. In June 1990 the percentage of data written to the ID1N was 94.28 and the percentage of data archived to the S-7 was 89.57. (See table 1(f).) The β angle increased from 37.3° at the

beginning of the month to a maximum of 37.8° on June 15 (this was the maximum β angle for the year), and then decreased to 37.4° by the end of the month. (See figs. 5 and 8.) There were no periods during the month when the spacecraft was in full sunlight for an entire orbit.

The nonscanner instrument operated in the normal Earth-viewing elevation mode for the entire month except during calibrations. The nonscanner azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth position each week. The azimuth positions for the month of June were

Date	Azimuth position, deg
June 1–6	144.60
June 6–13	144.08
June 13–20	143.85
June 20–27	143.85
June 27–30	144.23

Successful internal and solar calibrations of the nonscanner instrument were performed on June 6, 13, 20, and 27.

NOAA 10 spacecraft—July 1990. In July 1990 the percentage of data written to the ID1N was 93.90 and the percentage of data archived to the S-7 was 89.43. (See table 1(g).) No data were received from NOAA for July 20. Excluding this day, the percentage of data written to the ID1N was 97.03 and the percentage of data archived to the S-7 was 92.41. The β angle decreased from 37.2° at the beginning of the month to 32.8° by the end of the month. (See figs. 5 and 8.) There were no periods during the month when the spacecraft was in full sunlight for an entire orbit.

The nonscanner instrument operated in the normal Earth-viewing elevation mode for the entire month except during calibrations. The nonscanner azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth position each week. The azimuth positions for the month of July were

Date	Azimuth position, deg
July 1–4	144.23
July 4–11	144.83
July 11–18	145.73
July 18–25	146.78
July 25–31	148.05

Successful internal and solar calibrations of the nonscanner instrument were performed on July 4, 11, 18, and 25.

NOAA 10 spacecraft—August 1990. In August 1990 the percentage of data written to the ID1N was 98.51 and the percentage of data archived to the S-7 was 93.50. (See table 1(h).) The β angle decreased from 32.7° at the beginning of the month to 26.5° by the end of the month. (See figs. 5 and 8.) The spacecraft operated under full-Sun conditions from August 13 through August 31.

The nonscanner instrument operated in the normal Earth-viewing elevation mode for the entire month except during calibrations. The nonscanner azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth position each week. The azimuth positions for the month of August were

Date	Azimuth position, deg
August 1	148.05
August 1–8	149.48
August 8–15	151.05
August 15–22	152.63
August 22–29	154.28
August 29–31	155.78

Successful internal and solar calibrations of the nonscanner instrument were performed on August 1, 8, 15, 22, and 29. The entire solar calibration on August 1 was obscured by fill data and data dropouts. The beginning of the internal calibration on August 15 was obscured by a data dropout.

NOAA 10 spacecraft—September 1990. In September 1990 the percentage of data written to the ID1N was 95.00 and the percentage of data archived to the S-7 was 90.57. (See table 1(i).) No data were received from NOAA for September 13. Excluding this day, the percentage of data written to the ID1N was 98.28 and the percentage of data archived to the S-7 was 93.69. The β angle decreased from 26.4° at the beginning of the month to 23.2° by the end of the month. (See figs. 5 and 8.) The spacecraft operated under full-Sun conditions for the entire month of September.

The nonscanner instrument operated in the normal Earth-viewing elevation mode for the entire month except during calibrations. The nonscanner azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth position each week. The azimuth positions for the month of September were

Date	Azimuth position, deg
September 1–5	155.78
September 5–12	157.13
September 12–19	158.33
September 19–26	159.23
September 26–30	159.83

Successful internal and solar calibrations of the nonscanner instrument were performed on September 5, 12, 19, and 26.

NOAA 10 spacecraft—October 1990. In October 1990 the percentage of data written to the ID1N was 98.79 and the percentage of data archived to the S-7 was 93.83. (See table 1(j).) The β angle decreased from 23.2° at the beginning of the month to a low of 23.1° on October 7, and then increased to 24.1° by the end of the month. (See figs. 5 and 8.) The spacecraft operated under full-Sun conditions for the entire month of October.

The nonscanner instrument operated in the normal Earth-viewing elevation mode for the entire month except during calibrations. The nonscanner azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth position each week. The azimuth positions for the month of October were

Date	Azimuth position, deg
October 1–3	159.83
October 3–17	160.13
October 17–24	159.90
October 24–31	159.45

Successful internal and solar calibrations of the nonscanner instrument were performed on October 3, 10, 17, 24, and 31.

NOAA 10 spacecraft—November 1990. In November 1990 the percentage of data written to the ID1N was 98.87 and the percentage of data archived to the S-7 was 94.85. (See table 1(k).) The β angle increased from 24.1° at the beginning of the month to 25.2° by the end of the month. (See figs. 5 and 8.) The spacecraft operated under full-Sun conditions for the entire month of November.

The nonscanner instrument operated in the normal Earth-viewing elevation mode for the entire month except during calibrations. The nonscanner azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth position each week. The azimuth positions for the month of November were

Date	Azimuth position, deg
November 1–7	159.00
November 7–14	158.48
November 14–21	158.10
November 21–28	157.80
November 28–30	157.73

Successful internal and solar calibrations of the nonscanner instrument were performed on November 7, 14, 21, and 28.

NOAA 10 spacecraft—December 1990. In December 1990 the percentage of data written to the ID1N was 98.86 and the percentage of data archived to the S-7 was 94.82. (See table 1(j).) The β angle decreased from 25.2° at the beginning of the month to 22.8° by the end of the month. (See figs. 5 and 8.) The spacecraft operated under full-Sun conditions for the entire month of December.

The nonscanner instrument operated in the normal Earth-viewing elevation mode for the entire month except during calibrations. The nonscanner azimuth beam was left at the Sun-look position after each solar calibration so that the instrument operated at a different azimuth position each week. The azimuth positions for the month of December were

Date	Azimuth position, deg
December 1–5	157.73
December 5–12	157.80
December 12–19	158.10
December 19–26	158.70
December 26–31	159.60

Successful internal and solar calibrations of the nonscanner instrument were performed on December 5, 12, 19, and 26.

Concluding Remarks

In-flight operations and data acquisition have been discussed for Earth Radiation Budget Experiment (ERBE) nonscanner instruments during 1990. Operations of the ERBE scanner instruments are discussed in references 1 through 3. No ERBE scanner data are available after February 28, 1990, when the last operational ERBE scanner instrument, that aboard the ERBS spacecraft, failed. This publication addresses only the ERBE nonscanner instruments.

The NOAA 10 spacecraft was deactivated by NOAA on November 15, 1994, so no ERBE data are available from this spacecraft after that date. The ERBE nonscanner instrument aboard the NOAA 9 spacecraft was

powered off by NOAA on April 7, 1997. The ERBE nonscanner instrument aboard the ERBS spacecraft continues to operate and to provide valuable scientific data.

Data Coverage and Archival

Data coverage for the ERBE nonscanner instruments on the ERBS and National Oceanic and Atmospheric Administration (NOAA) spacecraft spans all of 1990. Archival to the Distributed Active Archive Center (DAAC) for the period of these nonscanner data was completed in August 1996.

The monthly average rate of ERBE data from the nonscanner instrument aboard the ERBS spacecraft written to the internal data product one nonscanner (ID1N) was nearly 100 percent, while the monthly average archival rate for the medium wide data tape (S-7) product was nearly 98 percent. There were more data losses, and the data coverage was somewhat more variable, for the ERBE instruments aboard the NOAA 9 and NOAA 10 spacecraft. The monthly average rate of NOAA 9 data written to the ID1N was nearly 94 percent, with a minimum of 89 percent in November and a maximum of 96 percent in August. The monthly average rate of NOAA 9 data archived to the S-7 was 85 percent, with a minimum of 75 percent in January and a maximum of 91 percent in October. The monthly average rate of data from the ERBE instrument aboard the NOAA 10 spacecraft written to the ID1N was 97 percent. The minimum rate for the ID1N was 94 percent in June, and the maximum was 98 percent in November. The monthly average rate of NOAA 10 data archived to the S-7 was 92 percent, with a minimum of 88 percent in May and a maximum of 94 percent in November. These percentages do not include days for which no data were archived.

Operations During Normal Earth-Viewing Measurements

The nonscanner instruments operated in the nadir (Earth-viewing) elevation mode, and the Solar Monitor Assembly (SMA) shutters remained off during normal operation. The detector and solar port heaters remained on, but all other nonscanner instrument heaters, including the ones that control output of the calibration sources, remained off. The temperatures of the heat sinks and apertures of the Earth-viewing detectors on all three nonscanner instruments were controlled to nearly constant values during normal operation.

Calibrations

Internal and solar calibrations of the nonscanner instrument on the ERBS spacecraft were generally performed every other Wednesday during the period of this paper. The normal calibration schedule for the instrument on the ERBS spacecraft was altered during full-Sun periods. During these periods regularly scheduled calibrations were not performed. Instead, a set of calibrations was normally performed immediately prior to and after the full-Sun periods. Internal and solar calibrations of the nonscanner instruments on the NOAA spacecraft were generally performed on every Wednesday during the period of this paper. Beginning in June 1990, solar measurements were performed every Monday and Friday on the NOAA 9 spacecraft.

During 1990, 30 successful internal and solar calibrations were performed on the ERBE nonscanner instrument aboard the ERBS spacecraft.

During 1990, 42 successful internal calibrations and 33 successful solar calibrations were performed on the ERBE nonscanner instrument aboard the NOAA 9 spacecraft. As with the instrument on the ERBS spacecraft, almost all the calibrations attempted were successful. Data from four nonscanner solar calibrations and three nonscanner internal calibrations were lost because of data dropouts. One nonscanner solar calibration was unsuccessful because of blockage of all four Earth-viewing channels and the solar monitor channel at the time of the Sun look. Because of the extremely low β angle, solar calibrations in October and November were not successful; during this time, the Sun was below the spacecraft horizon. A new calibration sequence that left the azimuth beam at 180° was implemented in September 1990. No internal calibrations were performed between September 12 and October 24, and no solar calibrations were performed between September 12 and December 12, 1990.

During the period of this paper, there were 50 successful internal calibrations and 48 successful solar calibrations of the ERBE nonscanner instrument aboard the NOAA 10 spacecraft. One of the internal calibrations was unsuccessful due to data dropouts obscuring the data. Also, two solar calibrations were obscured by data dropouts. One of the solar calibrations was unsuccessful because of suspect data.

Solar Environment and Its Effect on the Response and Operation of Instruments

The precession rate of the ERBS orbit produces variations in the β angle from 10° to 170° over a 72-day period. The orbit plane crosses the Sun about every 36 days, and the spacecraft is in full-Sun orbits near the two extremes of β. Solar heating increases during the full-Sun periods, and housekeeping temperature measurements on the instrument increase significantly. When the orbit plane crosses the Sun, the ERBS spacecraft is yawed 180° about the nadir axis to reposition the solar panels to tilt to the Sun side of the orbit.

The precession rate of the ascending node of the NOAA 9 orbit continues to increase and to make the orbit less Sun synchronous. This precession rate has caused the local time of the ascending node of the orbit to increase by 49 minutes between January 1, 1989 and January 1, 1990. The β angle varied from 1.1° to 33.4° during the period of this paper. The spacecraft was in full Sun from January 1 until May 20 and again from July 24 through the end of the year. Due to the extremely low β angles toward the end of the year, the Sun was below the horizon of the spacecraft, and hence not visible to the detectors. No solar calibrations can be performed when β is less than 12°. A new calibration sequence was implemented in October 1990 that did not include azimuth rotations for solar calibrations.

The β angle of the Sun-synchronous orbit of the NOAA 10 spacecraft varied between 18° and 37° during 1990. Variations in instrument housekeeping temperatures were significantly smaller than those on the ERBS spacecraft. The spacecraft was in full Sun from January 1 until April 20, and again from August 13 through the rest of the year.

Anomalies in Operation of Azimuth and Elevation Beams

No anomalies in azimuth or elevation beam operation occurred in 1990. Beginning in January 1990, the azimuth beams on the nonscanner instruments on both NOAA spacecraft were left at the Sun-look position after each solar calibration so that the instruments operated at a different azimuth position each week. This was done in order to obtain additional solar measurements from the ERBE nonscanner solar monitor detectors.

Acknowledgment

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Table 1. Summary Information for ID1N and S-7 Files for January Through December 1990

[For explanations of abbreviations, see "Nomenclature" on p. 1]

(a) January 1990[a]

ERBS spacecraft			Day of month	NOAA 9 spacecraft			Day of month	NOAA 10 spacecraft		
Percentage of data on—		Special events		Percentage of data on—		Special events		Percentage of data on—		Special events
ID1N	S-7			ID1N	S-7			ID1N	S-7	
100.00	99.91		1	89.41	68.91		1	79.52	72.56	
100.00	99.98		2	95.17	69.00		2	100.00	98.48	
100.00	78.33	All NS CAL's	3	98.78	63.24	All NS CAL's	3	99.33	71.63	All NS CAL's
100.00	100.00		4	73.41	56.28		4	93.19	92.63	
100.00	99.98		5	98.91	69.11		5	100.00	99.35	
100.00	99.96		6	98.44	89.85		6	99.93	98.04	
100.00	99.93		7	82.91	78.50		7	93.61	93.13	
100.00	100.00		8	91.13	83.67		8	99.96	98.96	
100.00	99.96		9	92.93	87.35		9	99.93	96.67	
100.00	99.96		10	83.44	76.59		10	100.00	97.98	
100.00	99.93		11	97.11	73.46		11	100.00	96.98	
100.00	99.96		12	98.98	90.41		12	89.17	86.33	
100.00	99.98		13	99.07	95.72		13	89.83	80.87	
100.00	99.96		14	99.06	91.98		14	92.94	92.67	
99.59	99.54		15	92.57	83.69		15	98.46	93.43	
100.00	99.98		16	91.20	86.19		16	99.39	93.57	
100.00	78.31	All NS CAL's	17	97.22	64.67	All NS CAL's	17	100.00	71.26	All NS CAL's
100.00	99.81		18	95.13	90.43		18	93.59	91.69	
100.00	100.00		19	94.93	56.35		19	71.78	64.31	
100.00	99.87		20	91.11	65.52		20	96.26	94.11	
100.00	99.98		21	97.15	84.74		21	97.94	92.37	
100.00	99.98		22	82.28	40.04		22	85.65	84.59	
100.00	99.93		23	97.76	87.26		23	100.00	99.61	
100.00	99.70		24	89.81	56.81	All NS CAL's	24	100.00	71.37	All NS CAL's
100.00	96.50	Yaw turn (−) to (+)	25	94.78	88.63		25	99.65	97.83	
100.00	100.00		26	95.65	93.56		26	100.00	99.44	
100.00	99.96		27	80.19	64.17		27	97.98	97.20	
100.00	99.96		28	93.26	89.07		28	95.24	91.81	
100.00	99.96		29	68.13	55.76		29	99.26	97.13	
100.00	99.87		30	98.52	90.98		30	95.13	92.72	
99.98	78.31	All NS CAL's	31	87.61	56.50	NS Internal CAL	31	99.67	71.94	All NS CAL's

	ERBS	NOAA 9	NOAA 10
[a]Percentage of data for all days in month on—			
ID1N	99.99	91.81	95.72
S-7	97.73	75.76	89.70
Percentage of data for days in month with data on—			
ID1N	99.99	91.81	95.72
S-7	97.73	75.76	89.70
Date on which S-7 was archived at Langley DAAC:	Mar. 1995	Feb. 1995	Apr. 1995

Table 1. Continued

(b) February 1990[a]

ERBS spacecraft			Day of month	NOAA 9 spacecraft			Day of month	NOAA 10 spacecraft		
Percentage of data on—		Special events		Percentage of data on—		Special events		Percentage of data on—		Special events
ID1N	S-7			ID1N	S-7			ID1N	S-7	
100.00	99.98		1	98.67	96.46		1	100.00	99.07	
100.00	99.91		2	96.81	96.19		2	99.98	98.59	
100.00	100.00		3	98.94	98.52		3	99.33	98.50	
100.00	99.96		4	96.91	89.80		4	95.87	94.22	
100.00	99.98		5	90.06	85.52		5	100.00	99.00	
100.00	99.80		6	71.06	67.76		6	97.83	94.56	
100.00	100.00		7	93.98	56.56	All NS CAL's	7	99.98	64.94	All NS CAL's
100.00	99.96		8	83.67	83.33		8	98.93	98.52	
100.00	99.94		9	98.96	98.57		9	94.57	93.44	
100.00	100.00		10	99.07	98.83		10	99.91	99.15	
100.00	78.35	All NS CAL's	11	95.57	93.33		11	99.91	99.54	
100.00	99.98		12	98.44	95.50		12	98.54	97.54	
100.00	99.96		13	95.56	79.87		13	100.00	99.61	
100.00	99.89		14	98.56	60.00	All NS CAL's	14	76.63	29.13	All NS CAL's
100.00	99.98		15	98.93	97.76		15	95.26	94.98	
100.00	99.98		16	98.61	98.48		16	100.00	99.69	
100.00	99.96		17	88.09	84.56		17	100.00	99.06	
100.00	99.91		18	99.07	93.80		18	100.00	99.19	
100.00	99.94		19	99.06	93.98		19	99.69	99.06	
99.72	99.41		20	92.63	89.41		20	99.98	99.30	
100.00	99.98		21	99.04	61.61	All NS CAL's	21	100.00	72.15	All NS CAL's
100.00	99.93		22	90.02	88.87		22	87.17	86.22	
100.00	78.30	All NS CAL's	23	91.07	82.20		23	93.13	92.85	
100.00	99.98		24	87.09	81.80		24	99.22	94.30	
100.00	99.94		25	95.89	75.61		25	99.93	99.56	
100.00	99.96		26	94.57	93.33		26	100.00	99.76	
100.00	99.89		27	98.87	98.72		27	85.52	72.24	
100.00	78.11	All NS CAL's	28	94.72	31.81	All NS CAL's	28	72.69	43.70	All NS CAL's

	ERBS	NOAA 9	NOAA 10
[a]Percentage of data for all days in month on—			
ID1N	99.99	94.43	96.22
S-7	97.61	84.72	89.92
Percentage of data for days in month with data on—			
ID1N	99.99	94.43	96.22
S-7	97.61	84.72	89.92
Date on which S-7 was archived at Langley DAAC:	June 1995	June 1995	Oct. 1995

Table 1. Continued

(c) March 1990[a]

ERBS spacecraft			Day of month	NOAA 9 spacecraft			Day of month	NOAA 10 spacecraft		
Percentage of data on—		Special events		Percentage of data on—		Special events		Percentage of data on—		Special events
ID1N	S-7			ID1N	S-7			ID1N	S-7	
100.00	99.80		1	93.11	82.07		1	80.70	79.78	
99.30	99.20		2	99.00	98.98		2	100.00	99.72	
100.00	99.96		3	98.61	98.61		3	95.98	95.69	
100.00	99.96		4	91.28	90.98		4	98.52	96.26	
100.00	99.91		5	98.89	98.83		5	98.94	97.65	
100.00	95.98	Yaw turn (+) to (−)	6	99.35	76.02		6	95.04	94.61	
100.00	99.96		7	92.91	65.76	NS Solar CAL	7	97.89	72.07	All NS CAL's
100.00	99.98		8	99.17	98.43		8	100.00	99.37	
100.00	100.00		9	75.96	75.48		9	100.00	99.63	
100.00	99.98		10	98.65	98.33		10	99.94	99.46	
99.98	99.31		11	98.65	98.59		11	98.94	97.61	
100.00	100.00		12	91.93	90.56		12	95.24	94.63	
100.00	99.98		13	93.26	92.37		13	98.41	98.13	
100.00	78.30	All NS CAL's	14	87.83	53.93	All NS CAL's	14	95.80	61.56	All NS CAL's
100.00	99.96		15	99.06	97.91		15	100.00	99.63	
100.00	99.96		16	99.11	97.96		16	99.72	98.89	
100.00	99.98		17	99.17	98.98		17	100.00	99.81	
100.00	99.24		18	98.93	97.89		18	100.00	99.50	
100.00	100.00		19	99.04	98.69		19	100.00	99.70	
100.00	99.96		20	98.76	97.17		20	92.22	91.24	
100.00	99.91		21	98.74	64.15	All NS CAL's	21	99.94	72.33	All NS CAL's
100.00	99.93	.	22	98.91	98.28		22	100.00	99.28	
100.00	99.80		23	99.19	98.44		23	100.00	99.59	
100.00	99.96		24	99.09	98.33		24	93.30	92.22	
100.00	100.00		25	98.89	98.41		25	100.00	99.63	
100.00	99.98		26	99.07	98.81		26	94.65	94.07	
100.00	99.96		27	99.09	98.85		27	100.00	99.63	
100.00	78.31	All NS CAL's	28	98.89	65.63	All NS CAL's	28	98.61	70.81	All NS CAL's
100.00	99.11		29	0.00	0.00		29	100.00	99.63	
100.00	99.87		30	99.00	98.26		30	100.00	99.33	
100.00	99.96		31	91.69	90.93		31	100.00	98.94	

	ERBS	NOAA 9	NOAA 10
[a]Percentage of data for all days in month on—			
ID1N	99.98	93.39	97.87
S-7	98.33	87.67	93.56
Percentage of data for days in month with data on—			
ID1N	99.98	96.51	97.87
S-7	98.33	90.59	93.56
Date on which S-7 was archived at Langley DAAC:	July 1995	July 1995	Aug. 1995

Table 1. Continued

(d) April 1990[a]

ERBS spacecraft			Day of month	NOAA 9 spacecraft			Day of month	NOAA 10 spacecraft		
Percentage of data on—		Special events		Percentage of data on—		Special events		Percentage of data on—		Special events
IDIN	S-7			IDIN	S-7			IDIN	S-7	
99.98	99.87		1	98.98	97.81		1	99.57	99.11	
100.00	99.96		2	98.98	98.39		2	95.04	94.81	
99.98	99.85		3	95.46	94.15		3	99.85	99.54	
100.00	99.91		4	87.48	30.76	NS Internal CAL	4	95.24	69.76	All NS CAL's
100.00	100.00		5	99.17	98.70		5	100.00	99.80	
99.96	99.91		6	73.02	72.72		6	97.09	96.67	
100.00	99.89		7	99.15	98.13		7	99.89	99.43	
100.00	99.96		8	98.94	98.44		8	99.48	99.09	
100.00	99.89		9	91.30	90.59		9	99.48	98.96	
99.63	99.35		10	96.56	96.04		10	95.35	94.87	
100.00	74.63	CAL's, Yaw (−) to (+)	11	93.80	59.54	All NS CAL's	11	78.81	57.61	All NS CAL's
100.00	99.85		12	97.39	94.81		12	100.00	99.31	
97.67	97.35		13	70.98	69.06		13	99.78	99.17	
100.00	99.93		14	81.02	76.06		14	99.85	99.35	
99.98	99.91		15	90.57	77.87		15	73.17	72.41	
98.24	98.13		16	90.04	76.06		16	99.39	98.98	
100.00	99.67		17	85.81	76.76		17	98.00	95.87	
100.00	99.85		18	91.43	58.57	All NS CAL's	18	97.13	33.46	All NS CAL's
100.00	99.89		19	95.98	94.46		19	96.35	92.30	
99.80	99.65		20	94.22	92.72		20	100.00	99.63	
99.61	99.54		21	89.35	86.26		21	98.67	98.15	
100.00	99.93		22	88.74	85.54		22	95.83	95.67	
100.00	99.85		23	99.06	97.69		23	97.02	96.00	
100.00	99.93		24	99.20	97.41		24	96.67	94.37	
100.00	78.30	All NS CAL's	25	97.50	62.04	All NS CAL's	25	99.50	66.83	All NS CAL's
100.00	99.89		26	97.37	95.13		26	79.48	78.93	
100.00	99.87		27	99.02	98.00		27	100.00	99.78	
100.00	99.93		28	98.17	96.96		28	94.41	93.89	
100.00	99.81		29	99.11	96.83		29	99.72	99.11	
100.00	99.89		30	98.94	98.28		30	79.46	77.96	

	ERBS	NOAA 9	NOAA 10
[a]Percentage of data for all days in month on—			
IDIN	99.83	93.22	95.47
S-7	98.15	85.53	90.03
Percentage of data for days in month with data on—			
IDIN	99.83	93.22	95.47
S-7	98.15	85.53	90.03
Date on which S-7 was archived at Langley DAAC:	Mar. 1995	June 1995	July 1995

Table 1. Continued

(e) May 1990[a]

ERBS spacecraft			Day of month	NOAA 9 spacecraft			Day of month	NOAA 10 spacecraft		
Percentage of data on—		Special events		Percentage of data on—		Special events		Percentage of data on—		Special events
ID1N	S-7			ID1N	S-7			ID1N	S-7	
100.00	99.67		1	99.33	98.69		1	90.00	89.20	
100.00	99.96		2	98.93	65.56	All NS CAL's	2	100.00	71.93	All NS CAL's
100.00	100.00		3	91.39	90.70		3	94.72	93.91	
100.00	99.94		4	98.81	96.09		4	100.00	94.48	
100.00	100.00		5	96.50	96.02		5	100.00	98.48	
100.00	99.96		6	99.02	97.52		6	0.00	0.00	
100.00	99.98		7	71.72	70.31		7	96.44	95.72	
100.00	99.72		8	99.04	98.50		8	99.98	99.28	
100.00	78.35	All NS CAL's	9	97.98	64.33	All NS CAL's	9	98.83	34.52	All NS CAL's
100.00	99.94		10	92.81	90.07		10	98.96	97.44	
100.00	99.98		11	92.07	83.83		11	100.00	98.81	
100.00	99.98		12	97.91	96.13		12	100.00	99.00	
98.02	97.98		13	97.17	95.41		13	96.13	88.22	
100.00	99.78		14	98.96	96.37		14	99.80	99.04	
100.00	95.69	Yaw turn (+) to (−)	15	97.67	91.26		15	93.41	92.63	
100.00	99.67		16	99.09	65.83	All NS CAL's	16	100.00	37.56	All NS CAL's
100.00	99.91		17	98.37	94.56		17	94.35	94.13	
100.00	99.83		18	42.89	30.02		18	77.30	76.74	
100.00	99.48		19	90.46	79.98		19	92.70	91.72	
99.65	99.37		20	94.11	55.65		20	99.72	99.24	
100.00	99.98		21	83.30	63.50		21	93.17	93.00	
100.00	99.94		22	98.83	97.61		22	100.00	99.44	
100.00	99.72		23	98.89	65.06	All NS CAL's	23	100.00	71.69	All NS CAL's
100.00	77.83	All NS CAL's	24	92.83	65.46		24	92.87	92.30	
100.00	99.96		25	96.57	76.61		25	100.00	98.33	
100.00	99.48		26	99.17	94.67		26	97.44	97.00	
100.00	100.00		27	98.78	97.54		27	96.61	92.61	
100.00	99.91		28	98.93	98.46		28	88.78	84.81	
100.00	99.96		29	98.96	97.57		29	99.09	98.44	
99.83	77.85	All NS CAL's	30	98.39	64.07	All NS CAL's	30	99.33	72.43	All NS CAL's
100.00	100.00		31	99.11	98.19		31	97.37	96.37	

	ERBS	NOAA 9	NOAA 10
[a]Percentage of data for all days in month on—			
ID1N	99.92	94.13	93.45
S-7	97.54	83.08	85.43
Percentage of data for days in month with data on—			
ID1N	99.92	94.13	96.57
S-7	97.54	83.08	88.28
Date on which S-7 was archived at Langley DAAC:	July 1995	Nov. 1995	Aug. 1995

Table 1. Continued

(f) June 1990[a]

ERBS spacecraft			Day of month	NOAA 9 spacecraft			Day of month	NOAA 10 spacecraft		
Percentage of data on—		Special events		Percentage of data on—		Special events		Percentage of data on—		Special events
ID1N	S-7			ID1N	S-7			ID1N	S-7	
100.00	100.00		1	98.87	97.98		1	93.31	90.44	
100.00	100.00		2	4.33	4.24		2	24.15	24.11	
100.00	100.00		3	88.37	72.41		3	99.22	98.87	
100.00	99.96		4	98.44	97.24		4	100.00	99.37	
100.00	99.94		5	98.80	72.80		5	99.28	98.56	
100.00	99.74		6	98.89	23.15	NS Solar CAL	6	100.00	72.15	All NS CAL's
100.00	99.80		7	95.00	94.43		7	99.96	99.63	
100.00	99.11		8	99.17	83.13		8	99.72	98.76	
100.00	99.78		9	99.06	87.83		9	90.93	90.56	
100.00	99.76		10	98.98	62.87		10	82.31	81.98	
100.00	99.39		11	98.76	81.98		11	97.69	96.28	
100.00	99.83		12	89.69	77.11		12	95.43	94.65	
100.00	99.98		13	93.35	48.30	All NS CAL's	13	98.91	65.85	All NS CAL's
100.00	78.13	All NS CAL's	14	99.07	98.69		14	99.98	99.65	
100.00	100.00		15	0.00	0.00		15	99.98	99.69	
100.00	99.96		16	98.67	91.78		16	99.98	99.39	
99.00	98.89		17	90.30	86.63		17	99.87	99.35	
100.00	99.93		18	99.15	98.20		18	99.98	99.63	
100.00	99.65		19	90.76	89.57		19	91.81	91.39	
100.00	78.24	All NS CAL's	20	99.22	64.80	All NS CAL's	20	92.33	60.98	All NS CAL's
100.00	99.80		21	99.22	97.93		21	92.63	92.26	
96.80	96.70		22	99.09	98.43		22	93.09	92.56	
100.00	99.89		23	92.70	91.65		23	99.48	99.11	
100.00	99.98		24	88.96	86.04		24	97.91	97.41	
99.98	99.69		25	99.11	96.72		25	94.20	92.57	
100.00	99.94		26	99.20	98.46		26	98.09	94.96	
100.00	96.59	Yaw turn (−) to (+)	27	99.09	65.46	All NS CAL's	27	95.61	67.89	All NS CAL's
100.00	99.89		28	99.19	97.35		28	99.98	99.67	
22.04	22.04		29	98.81	97.04		29	99.69	96.87	
100.00	99.93		30	99.35	96.89		30	92.87	92.46	

	ERBS	NOAA 9	NOAA 10
[a]Percentage of data for all days in month on—			
ID1N	97.26	90.45	94.28
S-7	95.55	78.64	89.57
Percentage of data for days in month with data on—			
ID1N	97.26	93.57	94.28
S-7	95.55	81.35	89.57
Date on which S-7 was archived at Langley DAAC:	Sep. 1995	Aug. 1995	Aug. 1995

Table 1. Continued

(g) July 1990[a]

ERBS spacecraft			Day of month	NOAA 9 spacecraft			Day of month	NOAA 10 spacecraft		
Percentage of data on—		Special events		Percentage of data on—		Special events		Percentage of data on—		Special events
ID1N	S-7			ID1N	S-7			ID1N	S-7	
100.00	99.83		1	83.22	81.93		1	87.76	87.04	
100.00	99.89		2	91.63	89.91		2	99.98	98.94	
100.00	99.96		3	97.78	96.59		3	99.98	99.54	
100.00	78.33	All NS CAL's	4	97.89	64.09	All NS CAL's	4	99.80	72.33	All NS CAL's
100.00	99.89		5	91.24	82.89		5	93.28	92.61	
100.00	100.00		6	52.52	51.31		6	99.98	99.41	
100.00	99.94		7	99.19	98.22		7	99.96	98.57	
100.00	100.00		8	95.11	88.63		8	99.52	98.69	
100.00	93.56		9	90.50	76.35		9	99.98	99.39	
100.00	99.89		10	98.52	96.35		10	99.98	99.72	
100.00	100.00		11	84.44	23.67	NS Internal CAL	11	99.98	72.04	All NS CAL's
100.00	99.98		12	99.19	97.72		12	89.17	86.87	
99.98	99.96		13	99.04	89.13		13	99.98	98.72	
100.00	100.00		14	89.11	79.98		14	91.61	90.54	
100.00	100.00		15	99.07	84.87		15	96.98	96.11	
100.00	99.81		16	93.20	82.11		16	99.98	99.69	
100.00	99.96		17	98.96	96.57		17	96.17	95.44	
100.00	78.22	All NS CAL's	18	96.76	30.81	All NS CAL's	18	94.48	68.39	All NS CAL's
100.00	99.94		19	99.11	95.44		19	93.93	93.17	
100.00	99.87		20	98.56	97.39		20	0.00	0.00	
100.00	99.96		21	84.87	83.43		21	99.98	99.72	
100.00	99.98		22	94.67	90.80		22	91.83	90.91	
100.00	100.00		23	90.54	87.89		23	97.56	96.59	
100.00	99.94		24	99.22	98.43		24	99.98	99.80	
99.96	99.94		25	98.59	65.19	All NS CAL's	25	99.80	71.76	All NS CAL's
100.00	87.72	Yaw turn (+) to (−)	26	99.35	98.13		26	97.26	96.94	
100.00	99.96		27	82.98	71.37		27	92.93	87.44	
99.98	99.83		28	96.35	88.17		28	99.93	93.96	
100.00	99.96		29	98.83	97.70		29	99.98	99.69	
100.00	99.94		30	95.04	93.85		30	94.11	93.74	
100.00	100.00		31	87.85	68.07		31	94.93	94.59	

	ERBS	NOAA 9	NOAA 10
[a]Percentage of data for all days in month on—			
ID1N	100.00	93.01	93.90
S-7	97.95	82.16	89.43
Percentage of data for days in month with data on—			
ID1N	100.00	93.01	97.03
S-7	97.95	82.16	92.41
Date on which S-7 was archived at Langley DAAC:	Mar. 1995	Apr. 1995	Mar. 1995

Table 1. Continued

(h) August 1990[a]

ERBS spacecraft			Day of month	NOAA 9 spacecraft			Day of month	NOAA 10 spacecraft		
Percentage of data on—		Special events		Percentage of data on—		Special events		Percentage of data on—		Special events
ID1N	S-7			ID1N	S-7			ID1N	S-7	
100.00	78.28	All NS CAL's	1	99.04	63.46	All NS CAL's	1	96.69	68.83	All NS CAL's
100.00	99.96		2	95.63	94.85		2	95.72	92.56	
100.00	99.69		3	99.19	98.76		3	94.83	94.30	
100.00	99.87		4	99.19	98.85		4	99.98	99.52	
100.00	99.94		5	94.76	91.52		5	99.98	99.17	
100.00	99.98		6	98.07	93.28		6	95.46	95.11	
100.00	99.85		7	96.85	95.59		7	98.70	98.02	
100.00	99.74		8	89.93	53.43	All NS CAL's	8	99.98	72.28	All NS CAL's
100.00	99.94		9	83.80	82.15		9	99.98	99.50	
99.98	99.94		10	91.48	85.72		10	99.35	99.15	
100.00	100.00		11	98.09	86.22		11	99.74	99.46	
100.00	78.33	All NS CAL's	12	98.57	93.81		12	92.72	92.48	
100.00	99.98		13	97.76	90.70		13	96.54	93.30	
100.00	99.70		14	98.98	95.70		14	97.33	95.07	
100.00	99.85		15	98.93	64.59	All NS CAL's	15	98.00	72.22	All NS CAL's
100.00	99.81		16	99.07	96.56		16	99.33	98.96	
100.00	99.96		17	98.17	86.50		17	99.98	99.65	
100.00	99.96		18	92.87	89.98		18	99.98	99.61	
100.00	99.98		19	96.26	94.52		19	99.98	99.83	
100.00	100.00		20	100.00	99.96		20	99.96	99.70	
100.00	99.96		21	99.00	98.65		21	99.98	99.37	
100.00	100.00		22	91.85	58.33	All NS CAL's	22	99.98	72.06	All NS CAL's
100.00	99.96		23	99.19	98.37		23	99.98	99.65	
99.56	77.81	All NS CAL's	24	99.19	98.61		24	94.02	93.52	
99.74	99.63		25	99.22	98.83		25	99.98	99.59	
100.00	100.00		26	98.48	97.13		26	99.96	99.43	
100.00	100.00		27	97.02	94.24		27	99.98	99.54	
100.00	99.93		28	94.17	93.50		28	95.63	95.09	
99.93	78.35	All NS CAL's	29	97.31	61.76	All NS CAL's	29	99.98	72.13	All NS CAL's
100.00	99.93		30	99.04	97.70	-	30	99.98	99.70	
100.00	99.96		31	96.15	93.30		31	99.98	99.59	

	ERBS	NOAA 9	NOAA 10
[a]Percentage of data for all days in month on—			
ID1N	99.97	96.69	98.51
S-7	97.11	88.60	93.50
Percentage of data for days in month with data on—			
ID1N	99.97	96.69	98.51
S-7	97.11	88.60	93.50
Date on which S-7 was archived at Langley DAAC:	Aug. 1995	Sep. 1995	Sep. 1995

Table 1. Continued

(i) September 1990[a]

ERBS spacecraft			Day of month	NOAA 9 spacecraft			Day of month	NOAA 10 spacecraft		
Percentage of data on—		Special events		Percentage of data on—		Special events		Percentage of data on—		Special events
ID1N	S-7			ID1N	S-7			ID1N	S-7	
100.00	99.96		1	91.17	89.61		1	99.98	99.28	
100.00	99.98		2	91.67	89.81		2	99.98	99.67	
100.00	99.98		3	93.72	90.67		3	99.15	98.39	
100.00	100.00		4	99.09	97.17		4	99.98	99.59	
100.00	96.20	Yaw turn (−) to (+)	5	99.11	62.76	All NS CAL's	5	99.98	72.30	All NS CAL's
100.00	99.76		6	96.80	93.30		6	96.20	95.17	
100.00	99.96		7	98.91	98.39		7	99.96	99.70	
100.00	99.96		8	96.81	96.09		8	99.98	99.61	
100.00	100.00		9	99.19	97.26		9	99.04	98.81	
100.00	99.91		10	99.19	98.54		10	99.98	99.54	
100.00	99.98		11	93.35	91.33		11	85.48	84.65	
100.00	78.35	All NS CAL's	12	71.35	18.57	NS Solar CAL	12	90.24	57.87	All NS CAL's
100.00	100.00		13	89.35	88.46		13	0.00	0.00	
100.00	100.00		14	98.87	96.69		14	99.98	99.56	
100.00	99.93		15	97.54	89.67		15	99.20	93.15	
100.00	99.89		16	99.06	96.59		16	99.96	99.78	
100.00	100.00		17	98.80	96.89		17	99.98	99.70	
100.00	99.94		18	95.28	91.13		18	99.89	99.76	
100.00	99.98		19	99.07	97.98		19	97.74	69.04	All NS CAL's
100.00	99.98		20	99.19	95.74		20	90.91	90.35	
100.00	100.00		21	98.20	95.59		21	99.98	98.93	
100.00	99.98		22	99.06	98.00		22	99.39	99.31	
100.00	100.00		23	99.19	98.65		23	99.98	99.74	
100.00	99.98		24	98.06	97.54		24	99.98	99.61	
100.00	99.94		25	98.98	98.07		25	99.98	99.72	
100.00	78.35	All NS CAL's	26	99.19	99.11		26	99.98	71.74	All NS CAL's
100.00	99.94		27	98.98	98.24		27	95.70	95.43	
99.91	99.89		28	99.04	97.00		28	97.57	97.31	
100.00	100.00		29	98.20	82.52		29	99.98	99.56	
100.00	99.93		30	99.22	97.19		30	99.96	99.76	

	ERBS	NOAA 9	NOAA 10
[a]Percentage of data for all days in month on—			
ID1N	100.00	96.52	95.00
S-7	98.39	91.29	90.57
Percentage of data for days in month with data on—			
ID1N	100.00	96.52	98.28
S-7	98.39	91.29	93.69
Date on which S-7 was archived at Langley DAAC:	Aug. 1995	Sep. 1995	Sep. 1995

Table 1. Continued

(j) October 1990[a]

ERBS spacecraft			Day of month	NOAA 9 spacecraft			Day of month	NOAA 10 spacecraft		
Percentage of data on—		Special events		Percentage of data on—		Special events		Percentage of data on—		Special events
ID1N	S-7			ID1N	S-7			ID1N	S-7	
100.00	99.78		1	99.07	98.67		1	99.98	99.65	
99.98	99.98		2	91.59	91.31		2	99.96	99.57	
100.00	99.98		3	89.67	87.93		3	99.98	72.26	All NS CAL's
100.00	100.00		4	83.67	83.28		4	99.81	99.46	
100.00	99.81		5	91.89	91.59		5	99.98	99.37	
100.00	99.94		6	99.00	98.20		6	99.98	99.50	
100.00	100.00		7	89.50	87.61		7	99.00	98.30	
100.00	99.98		8	98.57	98.17		8	99.85	99.56	
100.00	99.91		9	99.22	98.39		9	99.78	99.11	
100.00	78.33	All NS CAL's	10	87.83	86.41		10	99.98	72.46	All NS CAL's
100.00	99.98		11	95.24	93.43		11	94.56	93.74	
100.00	94.74	Yaw turn (+) to (−)	12	94.46	89.61		12	98.63	97.85	
100.00	99.91		13	97.94	96.89		13	92.67	92.43	
100.00	99.93		14	99.15	98.30		14	99.98	99.57	
100.00	99.91		15	98.63	97.67		15	99.70	97.06	
100.00	99.93		16	98.87	97.89		16	94.94	94.30	
100.00	99.93		17	99.19	98.89		17	99.98	72.43	All NS CAL's
100.00	99.98		18	98.69	97.85		18	99.96	99.76	
100.00	99.96		19	98.56	97.83		19	99.98	99.61	
100.00	99.96		20	91.74	91.31		20	99.78	99.61	
100.00	99.94		21	99.04	97.81		21	99.98	99.74	
100.00	99.94		22	83.04	80.13		22	99.98	99.76	
100.00	99.85		23	99.09	97.02		23	99.98	99.69	
100.00	78.35	All NS CAL's	24	99.00	75.74	All NS CAL's	24	99.98	72.31	All NS CAL's
100.00	99.91		25	98.72	98.04		25	99.98	99.83	
99.91	99.69		26	92.31	91.89		26	99.98	99.76	
100.00	99.96		27	99.06	98.57		27	99.98	99.59	
99.98	99.96		28	80.67	58.39		28	99.98	99.65	
100.00	99.98		29	98.96	96.65		29	90.83	87.69	
100.00	99.96		30	92.02	90.07		30	99.98	99.46	
100.00	99.98		31	89.39	70.43	All NS CAL's	31	93.33	65.63	All NS CAL's

	ERBS	NOAA 9	NOAA 10
[a]Percentage of data for all days in month on—			
ID1N	100.00	94.64	98.79
S-7	98.37	91.48	93.83
Percentage of data for days in month with data on—			
ID1N	100.00	94.64	98.79
S-7	98.37	91.48	93.83
Date on which S-7 was archived at Langley DAAC:	Apr. 1995	July 1995	May 1995

Table 1. Continued

(k) November 1990[a]

ERBS spacecraft			Day of month	NOAA 9 spacecraft			Day of month	NOAA 10 spacecraft		
Percentage of data on—		Special events		Percentage of data on—		Special events		Percentage of data on—		Special events
ID1N	S-7			ID1N	S-7			ID1N	S-7	
100.00	99.94		1	98.00	96.89		1	99.93	99.17	
99.98	99.96		2	92.35	92.04		2	99.98	99.61	
100.00	99.98		3	70.09	68.30		3	99.98	99.56	
100.00	99.94		4	99.07	96.93		4	99.83	99.19	
100.00	99.96		5	98.89	98.52		5	99.98	99.76	
100.00	99.94		6	91.61	89.83		6	99.98	99.81	
100.00	78.35	All NS CAL's	7	91.57	48.65	All NS CAL's	7	99.98	72.28	All NS CAL's
100.00	99.94		8	99.00	71.70		8	99.98	99.59	
99.98	99.98		9	92.57	91.15		9	99.98	99.69	
100.00	99.94		10	40.30	39.94		10	87.48	86.91	
100.00	100.00		11	89.52	89.20		11	92.35	91.87	
100.00	99.91		12	91.59	91.07		12	99.52	99.22	
100.00	99.93		13	98.98	97.78		13	99.98	99.39	
100.00	95.09	Yaw turn (−) to (+)	14	84.74	63.00	All NS CAL's	14	99.63	72.37	All NS CAL's
100.00	99.98		15	99.00	96.70		15	99.98	99.33	
100.00	99.98		16	98.96	96.59		16	98.13	97.65	
100.00	100.00		17	99.02	97.15		17	99.98	99.87	
100.00	99.96		18	52.89	52.83		18	99.98	99.61	
100.00	100.00		19	34.85	33.59		19	99.98	99.63	
100.00	99.96		20	99.15	91.28		20	99.98	99.30	
100.00	78.31	All NS CAL's	21	98.56	74.15	All NS CAL's	21	99.78	72.37	All NS CAL's
100.00	99.96		22	98.15	97.63		22	99.96	99.72	
100.00	100.00		23	99.11	97.41		23	99.98	99.70	
99.83	99.76		24	99.22	97.04		24	99.98	99.72	
99.87	99.80		25	99.09	98.22		25	99.96	99.72	
100.00	100.00		26	89.54	87.41		26	99.98	99.56	
100.00	99.96		27	80.04	79.35		27	99.98	99.56	
100.00	78.35	All NS CAL's	28	99.04	77.24	All NS CAL's	28	99.30	71.46	All NS CAL's
100.00	100.00		29	98.59	91.02		29	93.96	93.57	
100.00	99.96		30	98.76	88.35		30	96.63	96.28	

	ERBS	NOAA 9	NOAA 10
[a]Percentage of data for all days in month on—			
ID1N	99.99	89.41	98.87
S-7	97.63	83.03	94.85
Percentage of data for days in month with data on—			
ID1N	99.99	89.41	98.87
S-7	97.63	83.03	94.85
Date on which S-7 was archived at Langley DAAC:	Sep. 1995	Nov. 1995	Oct. 1995

Table 1. Concluded

(l) December 1990[a]

ERBS spacecraft			Day of month	NOAA 9 spacecraft			Day of month	NOAA 10 spacecraft		
Percentage of data on—		Special events		Percentage of data on—		Special events		Percentage of data on—		Special events
ID1N	S-7			ID1N	S-7			ID1N	S-7	
100.00	99.98		1	93.81	84.43		1	99.98	99.72	
99.96	99.94		2	82.96	69.52		2	99.98	99.61	
100.00	99.96		3	99.04	97.96		3	99.93	99.63	
100.00	100.00		4	79.63	75.44		4	99.98	99.76	
100.00	100.00		5	81.19	58.24	All NS CAL's	5	99.98	72.20	All NS CAL's
100.00	99.96		6	89.19	87.93		6	93.46	93.11	
100.00	99.98		7	96.78	94.22		7	99.85	99.43	
100.00	99.98		8	88.15	86.70		8	99.94	99.83	
100.00	100.00		9	76.00	75.04		9	99.70	99.54	
100.00	99.98		10	99.00	97.91		10	99.98	99.61	
100.00	99.98		11	87.09	84.56		11	99.81	99.24	
100.00	100.00		12	93.65	69.37	All NS CAL's	12	99.98	72.26	All NS CAL's
100.00	78.28	All NS CAL's	13	83.72	76.61		13	99.85	99.15	
100.00	99.98		14	96.74	95.50		14	99.93	97.61	
99.91	99.83		15	70.63	69.81		15	99.98	99.44	
99.63	99.63		16	99.06	98.54		16	99.96	99.69	
100.00	99.98		17	0.00	0.00		17	99.98	99.46	
100.00	99.98		18	98.91	96.17		18	92.85	92.54	
100.00	78.33	All NS CAL's	19	77.91	57.61	All NS CAL's	19	95.19	67.52	All NS CAL's
100.00	99.98		20	0.00	0.00		20	97.26	96.94	
100.00	99.98		21	99.22	98.22		21	99.98	99.56	
100.00	100.00		22	99.15	98.17		22	99.98	99.30	
99.89	99.80		23	98.91	96.00		23	99.98	99.13	
100.00	99.96		24	98.85	85.39		24	98.81	98.09	
100.00	99.98		25	78.43	56.00		25	99.93	98.94	
100.00	94.65	Yaw turn (+) to (−)	26	97.41	55.09	All NS CAL's	26	99.81	72.24	All NS CAL's
100.00	99.94		27	98.93	83.93		27	99.98	99.04	
100.00	99.93		28	98.96	98.07		28	95.83	95.00	
99.98	99.93		29	98.93	98.07		29	99.98	99.70	
100.00	100.00		30	99.15	98.78		30	99.98	99.70	
99.98	99.96		31	99.06	98.67		31	92.80	92.46	

	ERBS	NOAA 9	NOAA 10
[a]Percentage of data for all days in month on—			
ID1N	99.98	85.82	98.86
S-7	98.38	78.77	94.82
Percentage of data for days in month with data on—			
ID1N	99.98	91.74	98.86
S-7	98.38	84.20	94.82
Date on which S-7 was archived at Langley DAAC:	Oct. 1995	Aug. 1996	Dec. 1995

Table 2. Spectral Characteristics of ERBE Nonscanner Instrument Detectors

Detector	Spectral range, μm
Medium field of view:	
Shortwave	0.2 to 5.0
Total....................................	0.2 to >50.0
Wide field of view:	
Shortwave	0.2 to 5.0
Total....................................	0.2 to >50.0
Solar monitor	0.2 to >50.0

Table 3. Operational and Pulse Discrete Commands for ERBE Nonscanner Instruments

(a) Mode commands

Command Description	Hex value
Azimuth to 0° position	811
Azimuth to 90° position	812
Azimuth to 180° position	813
Azimuth to position A	814
Elevation to internal source (stow)	821
Elevation to solar ports	822
Elevation to nadir (Earth view)	823
SMA shutter cycle on	831
SMA shutter cycle off	832
Detector heaters on	841
Detector heaters off	842
Solar port heaters on	851
Solar port heaters off	852
WFOV blackbody heater off	861
WFOV blackbody heater to temperature 1	862
WFOV blackbody heater to temperature 2	863
MFOV blackbody heater off	871
MFOV blackbody heater to temperature 1	872
MFOV blackbody heater to temperature 2	873
Detector calibration heater off	881
Detector calibration heater to level 1	882
Detector calibration heater to level 2	883
Detector calibration heater to level 3	884
SWICS off	891
SWICS level 1	892
SWICS level 2	893
SWICS level 3	894
Internal calibration sequence	8A1
Solar calibration sequence	8A2

Table 3. Concluded

(b) Data storage commands

Command description	Hex value
Address for azimuth position A	419
Address for MFOV total heat sink temperature	422
Address for MFOV SW heat sink temperature	42B
Address for WFOV total heat sink temperature	434
Address for WFOV SW heat sink temperature	43D
Address for solar port temperature	446
Address for MFOV blackbody temperature 1	461
Address for MFOV blackbody temperature 2	463
Address for WFOV blackbody temperature 1	465
Address for WFOV blackbody temperature 2	467
Data, most significant byte	2xx
Data, least significant byte	1xx

(c) Pulse discrete commands

Command description
Turn on instrument power
Turn off instrument power
Turn on standby heater 2 power (pedestal)
Turn off standby heater 2 power (pedestal)
Turn on pulse bus series relay
Turn off pulse bus series relay
Turn on pulse load bus A power
Turn off pulse load bus A power
Turn on pulse load bus B power
Turn off pulse load bus B power
Turn on standby heater 1 power (head)
Turn off standby heater 1 power (head)
Turn on instrument heater bus power
Turn off instrument heater bus power
Turn on blackbody heater bus power
Turn off blackbody heater bus power
Turn on motor bus
Turn off motor bus
CPU command load
CPU reset

Table 4. Nonscanner Instrument Data Output

Data description	ID1N[a] units	S-7[b] units	Measurement interval, sec	Measurements/ per 16 sec
WFOV total radiometric	Counts	w/m^2	0.8	20
WFOV SW radiometric				
MFOV total radiometric				
MFOV SW radiometric		↓		
Solar monitor radiometric		Not on S-7	↓	↓
Command echo			16	1
Instrument status	↓			
Elevation drive position	deg			
MFOV total aperture temperature	°C			
MFOV SW aperture temperature				
Solar monitor heat sink temperature				
WFOV total aperture temperature				
WFOV SW aperture temperature				
MFOV total FOV limiter temperature				
MFOV SW limiter temperature	↓			
Calibration heater voltage	V			
Solar monitor aperture temperature	°C			
WFOV total FOV limiter temperature				
WFOV SW FOV limiter temperature				
Beam electronics board temperature				
Solar monitor baffle temperature	↓		↓	↓
Azimuth drive position	deg		8	2
WFOV total heat sink temperature	°C			
WFOV SW heat sink temperature				
MFOV total heat sink temperature				
MFOV SW heat sink temperature				
WFOV blackbody temperature				
MFOV blackbody temperature				
WFOV solar port temperature				
MFOV solar port temperature				
SWICS photodiode temperature	↓			
SWICS amplifier output	V			
Temperature reference voltage	↓		↓	↓
SAS azimuth sine	Counts		4	4
SAS azimuth cosine				
SAS elevation sine				
SAS elevation cosine				
SAS coarse data	↓	↓	↓	↓

[a]Radiometric and housekeeping data only. ID1N contains other data, such as spacecraft instrument status, that are not listed on this table.

[b]S-7 contains ephemeris, field of view, and additional radiometric data not listed on this table.

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Table 5. Normal In-Flight Operational Modes of Instruments

[Power relay: On = Closed; Off = Open]

(a) Operational modes

Mode category	Normal operational mode for—		
	ERBS	NOAA 9	NOAA 10
Azimuth-beam position	0°	170°	180°
Elevation-beam position	0° (Nadir)	0° (Nadir)	0° (Nadir)
SMA shutter operation	Off	Off	Off
Detector heaters	On	On	On
Solar port heaters	On	On	On
WFOV blackbody heaters	Off	Off	Off
MFOV blackbody heaters	Off	Off	Off
Detector calibration heater	Off	Off	Off
SW internal calibration source	Off	Off	Off
Internal calibration sequence	Not in	Not in	Not in
Solar calibration sequence	Not in	Not in	Not in

(b) Data for mode commands

Operational mode	Temperature, °C for—		
	ERBS	NOAA 9	NOAA 10
WFOV shortwave heat sink temperature	33.6	33.6	33.6
WFOV total heat sink temperature	33.6	33.6	33.6
MFOV shortwave heat sink temperature	33.6	33.6	33.6
MFOV total heat sink temperature	33.6	33.6	33.6
WFOV SW BB temperature level #1	26.2	29.7	29.7
WFOV tot BB temperature level #1	26.2	29.7	29.7
MFOV SW BB temperature level #2	29.7	29.7	29.7
MFOV tot BB temperature level #2	29.7	29.7	29.7
Solar port temperature	20.5	20.5	20.5

(c) Bi-level switch indicators

Description	Normal operations for—		
	ERBS	NOAA 9	NOAA 10
Instrument power	On	On	On
Pulse load bus A	On	On	On
Pulse load bus B	Off	Off	Off
Standby heater power	Off	Off	Off
Instrument heater power[a]	On	On	On
Calibration heater bias power[a]	On	On	On
Azimuth motor power[a]	Off	Off	Off
Elevation motor power[a]	Off	Off	Off

[a]Controlled by mode commands.

Table 6. Operational Commands Executed by Nonscanner Instrument on ERBS Spacecraft From January 1990 Through December 1990

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
Begin azimuth angle load commands for solar calibration.				
01/02/90	12:14:06	734.10	419	Address azimuth position A
	12:14:38	734.63	203	Data command, high byte
	12:15:42	735.70	1A0	Data command, low byte
End azimuth angle load commands (A = 69.60°). Begin preinternal calibration sequence.				
01/03/90	07:51:10	471.17	882	Detector bias heater on at level 1
	07:53:50	473.83	881	Detector bias heater off
	07:54:22	474.37	883	Detector bias heater on at level 2
	07:57:02	477.03	881	Detector bias heater off
	07:57:34	477.57	884	Detector bias heater on at level 3
	08:00:14	480.23	881	Detector bias heater off
	09:29:50	569.83	821	Elevate to internal source (stow)
	09:45:50	585.83	862	WFOV BB heater on at temp. 1
	10:01:50	601.83	872	MFOV BB heater on at temp. 1
	11:06:54	666.90	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
01/03/90	11:08:30	668.50	881	Detector bias heater off
	11:09:02	669.03	852	Solar port heaters off
	11:09:34	669.57	821	Elevate to internal source (stow)
	11:10:06	670.10	851	Solar port heaters on
	11:12:14	672.23	882	Detector bias heater on at level 1
	11:15:58	675.97	892	SWICS on at level 3
	11:19:10	679.17	881	Detector bias heater off
	11:22:54	682.90	862	WFOV BB heater on at temp. 1
	11:23:26	683.43	872	MFOV BB heater on at temp. 1

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Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
01/03/90	11:24:30	684.50	891	SWICS off
	11:37:50	697.83	883	Detector bias heater on at level 2
	11:41:34	701.57	893	SWICS on at level 2
	11:44:46	704.77	881	Detector bias heater off
	11:48:30	708.50	863	WFOV BB heater on at temp. 2
	11:49:02	709.03	873	MFOV BB heater on at temp. 2
	11:50:06	710.10	891	SWICS off
	12:03:26	723.43	884	Detector bias heater on at level 3
	12:07:10	727.17	894	SWICS on at level 1
	12:09:18	729.30	881	Detector bias heater off
	12:11:58	731.97	852	Solar port heaters off
	12:13:02	733.03	861	WFOV BB heater off
	12:13:34	733.57	871	MFOV BB heater off
	12:14:06	734.10	851	Solar port heaters on
	12:14:38	734.63	891	SWICS off
End internal calibration sequence.				
01/03/90	12:21:34	741.57	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
01/03/90	12:29:02	749.03	822	Elevate to solar ports (Sun)
	12:29:34	749.57	814	Azimuth to position A
	12:30:06	750.10	883	Detector bias heater on at level 2
	12:40:14	760.23	831	SMA shutter cycle on
	13:21:18	801.30	832	SMA shutter cycle off
	13:21:50	801.83	881	Detector bias heater off
	13:22:22	802.37	882	Detector bias heater on at level 1
	13:25:02	805.03	881	Detector bias heater off

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
01/03/90	13:25:34	805.57	883	Detector bias heater on at level 2
	13:28:14	808.23	881	Detector bias heater off
	13:28:46	808.77	884	Detector bias heater on at level 3
	13:31:26	811.43	881	Detector bias heater off
	13:31:58	811.97	852	Solar port heaters off
	13:47:58	827.97	851	Solar port heaters on
	13:48:30	828.50	821	Elevate to internal source (Stow)
	14:04:30	844.50	811	Azimuth to 0°
End solar calibration sequence.				
01/03/90	14:30:06	870.10	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
01/03/90	15:54:22	954.37	882	Detector bias heater on at level 1
	15:57:02	957.03	881	Detector bias heater off
	15:57:34	957.57	883	Detector bias heater on at level 2
	16:00:14	960.23	881	Detector bias heater off
	16:00:46	960.77	884	Detector bias heater on at level 3
	16:03:26	963.43	881	Detector bias heater off
End postcalibration sequence. Begin azimuth angle load commands for solar calibration.				
01/16/90	13:23:58	803.97	419	Address azimuth position A
	13:24:30	804.50	203	Data command, high byte
	13:25:34	805.57	10C	Data command, low byte
End azimuth angle load commands (A = 58.50°). Begin preinternal calibration sequence.				
01/17/90	06:59:58	419.97	882	Detector bias heater on at level 1
	07:02:38	422.63	881	Detector bias heater off

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
01/17/90	07:03:10	423.17	883	Detector bias heater on at level 2
	07:05:50	425.83	881	Detector bias heater off
	07:06:22	426.37	884	Detector bias heater on at level 3
	07:09:02	429.03	881	Detector bias heater off
	08:38:38	518.63	821	Elevate to internal source (stow)
	08:54:38	534.63	862	WFOV BB heater on at temp. 1
	09:10:38	550.63	872	MFOV BB heater on at temp. 1
	10:15:42	615.70	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
01/17/90	10:17:18	617.30	881	Detector bias heater off
	10:17:50	617.83	852	Solar port heaters off
	10:18:22	618.37	821	Elevate to internal source (stow)
	10:18:54	618.90	851	Solar port heaters on
	10:21:02	621.03	882	Detector bias heater on at level 1
	10:24:46	624.77	892	SWICS on at level 3
	10:27:58	627.97	881	Detector bias heater off
	10:31:42	631.70	862	WFOV BB heater on at temp. 1
	10:32:14	632.23	872	MFOV BB heater on at temp. 1
	10:33:18	633.30	891	SWICS off
	10:46:38	646.63	883	Detector bias heater on at level 2
	10:50:22	650.37	893	SWICS on at level 2
	10:53:34	653.57	881	Detector bias heater off
	10:57:18	657.30	863	WFOV BB heater on at temp. 2
	10:57:50	657.83	873	MFOV BB heater on at temp. 2
	10:58:54	658.90	891	SWICS off

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
01/17/90	11:12:14	672.23	884	Detector bias heater on at level 3
	11:15:58	675.97	894	SWICS on at level 1
	11:18:06	678.10	881	Detector bias heater off
	11:20:46	680.77	852	Solar port heaters off
	11:21:50	681.83	861	WFOV BB heater off
	11:22:22	682.37	871	MFOV BB heater off
	11:22:54	682.90	851	Solar port heaters on
	11:23:26	683.43	891	SWICS off
End internal calibration sequence.				
01/17/90	11:30:22	690.37	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
01/17/90	11:37:50	697.83	822	Elevate to solar ports (Sun)
	11:38:22	698.37	814	Azimuth to position A
	11:38:54	698.90	883	Detector bias heater on at level 2
	11:49:02	709.03	831	SMA shutter cycle on
	12:30:06	750.10	832	SMA shutter cycle off
	12:30:38	750.63	881	Detector bias heater off
	12:31:10	751.17	882	Detector bias heater on at level 1
	12:33:50	753.83	881	Detector bias heater off
	12:34:22	754.37	883	Detector bias heater on at level 2
	12:37:02	757.03	881	Detector bias heater off
	12:37:34	757.57	884	Detector bias heater on at level 3
	12:40:14	760.23	881	Detector bias heater off
	12:40:46	760.77	852	Solar port heaters off
	12:56:46	776.77	851	Solar port heaters on
	12:57:18	777.30	821	Elevate to internal source (stow)

Table 6. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
01/17/90	13:13:18	793.30	811	Azimuth to 0°
End solar calibration sequence.				
01/17/90	13:38:54	818.90	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
01/17/90	15:03:10	903.17	882	Detector bias heater on at level 1
	15:05:50	905.83	881	Detector bias heater off
	15:06:22	906.37	883	Detector bias heater on at level 2
	15:09:02	909.03	881	Detector bias heater off
	15:09:34	909.57	884	Detector bias heater on at level 3
	15:12:14	912.23	881	Detector bias heater off
End postcalibration sequence.				
01/25/90	18:50:05			Yaw maneuver to X-axis positive
Begin azimuth angle load commands for solar calibration.				
01/30/90	15:36:46	936.77	419	Address azimuth position A
	15:37:18	937.30	203	Data command, high byte
	15:38:22	938.37	1E7	Data command, low byte
End azimuth angle load commands (A = 74.93°). Begin preinternal calibration sequence.				
01/31/90	09:04:46	544.77	882	Detector bias heater on at level 1
	09:07:26	547.43	881	Detector bias heater off
	09:07:58	547.97	883	Detector bias heater on at level 2
	09:10:38	550.63	881	Detector bias heater off
	09:11:10	551.17	884	Detector bias heater on at level 3
	09:13:50	553.83	881	Detector bias heater off
	10:13:02	613.03	821	Elevate to internal source (stow)
	10:29:02	629.03	862	WFOV BB heater on at temp. 1

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
01/31/90	10:45:02	645.03	872	MFOV BB heater on at temp. 1
	11:50:06	710.10	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
01/31/90	11:51:42	711.70	881	Detector bias heater off
	11:52:14	712.23	852	Solar port heaters off
	11:52:46	712.77	821	Elevate to internal source (stow)
	11:53:18	713.30	851	Solar port heaters on
	11:55:26	715.43	882	Detector bias heater on at level 1
	11:59:10	719.17	892	SWICS on at level 3
	12:02:22	722.37	881	Detector bias heater off
	12:06:06	726.10	862	WFOV BB heater on at temp. 1
	12:06:38	726.63	872	MFOV BB heater on at temp. 1
	12:07:42	727.70	891	SWICS off
	12:21:02	741.03	883	Detector bias heater on at level 2
	12:24:46	744.77	893	SWICS on at level 2
	12:27:58	747.97	881	Detector bias heater off
	12:31:42	751.70	863	WFOV BB heater on at temp. 2
	12:32:14	752.23	873	MFOV BB heater on at temp. 2
	12:33:18	753.30	891	SWICS off
	12:46:38	766.63	884	Detector bias heater on at level 3
	12:50:22	770.37	894	SWICS on at level 1
	12:52:30	772.50	881	Detector bias heater off
	12:55:10	775.17	852	Solar port heaters off
	12:56:14	776.23	861	WFOV BB heater off
	12:56:46	776.77	871	MFOV BB heater off

Table 6. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
01/31/90	12:57:18	777.30	851	Solar port heaters on
	12:57:50	777.83	891	SWICS off
End internal calibration sequence.				
01/31/90	13:04:46	784.77	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
01/31/90	13:12:14	792.23	822	Elevate to solar ports (Sun)
	13:12:46	792.77	814	Azimuth to position A
	13:13:18	793.30	883	Detector bias heater on at level 2
	13:23:26	803.43	831	SMA shutter cycle on
	14:04:30	844.50	832	SMA shutter cycle off
	14:05:02	845.03	881	Detector bias heater off
	14:05:34	845.57	882	Detector bias heater on at level 1
	14:08:14	848.23	881	Detector bias heater off
	14:08:46	848.77	883	Detector bias heater on at level 2
	14:11:26	851.43	881	Detector bias heater off
	14:11:58	851.97	884	Detector bias heater on at level 3
	14:14:38	854.63	881	Detector bias heater off
	14:15:10	855.17	852	Solar port heaters off
	14:31:10	871.17	851	Solar port heaters on
	14:31:42	871.70	821	Elevate to internal source (stow)
	14:47:42	887.70	811	Azimuth to 0°
End solar calibration sequence.				
01/31/90	15:13:18	913.30	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
01/31/90	15:31:58	931.97	882	Detector bias heater on at level 1

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
01/31/90	15:34:38	934.63	881	Detector bias heater off
	15:35:10	935.17	883	Detector bias heater on at level 2
	15:37:50	937.83	881	Detector bias heater off
	15:38:22	938.37	884	Detector bias heater on at level 3
	15:41:02	941.03	881	Detector bias heater off
End postcalibration sequence. Begin azimuth angle load commands for solar calibration.				
02/10/90	16:01:18	961.30	419	Address azimuth position A
	16:01:50	961.83	201	Data command, high byte
	16:02:54	962.90	19F	Data command, low byte
End azimuth angle load commands (A = 31.13°). Begin preinternal calibration sequence.				
02/11/90	02:50:22	170.37	882	Detector bias heater on at level 1
	02:53:02	173.03	881	Detector bias heater off
	02:53:34	173.57	883	Detector bias heater on at level 2
	02:56:14	176.23	881	Detector bias heater off
	02:56:46	176.77	884	Detector bias heater on at level 3
	02:59:26	179.43	881	Detector bias heater off
	03:58:38	238.63	821	Elevate to internal source (stow)
	04:14:38	254.63	862	WFOV BB heater on at temp. 1
	04:30:38	270.63	872	MFOV BB heater on at temp. 1
	05:35:42	335.70	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
02/11/90	05:37:18	337.30	881	Detector bias heater off
	05:37:50	337.83	852	Solar port heaters off
	05:38:22	338.37	821	Elevate to internal source (stow)

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Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
02/11/90	05:38:54	338.90	851	Solar port heaters on
	05:41:02	341.03	882	Detector bias heater on at level 1
	05:44:46	344.77	892	SWICS on at level 3
	05:47:58	347.97	881	Detector bias heater off
	05:51:42	351.70	862	WFOV BB heater on at temp. 1
	05:52:14	352.23	872	MFOV BB heater on at temp. 1
	05:53:18	353.30	891	SWICS off
	06:06:38	366.63	883	Detector bias heater on at level 2
	06:10:22	370.37	893	SWICS on at level 2
	06:13:34	373.57	881	Detector bias heater off
	06:17:18	377.30	863	WFOV BB heater on at temp. 2
	06:17:50	377.83	873	MFOV BB heater on at temp. 2
	06:19:10	379.17	891	SWICS off
	06:32:14	392.23	884	Detector bias heater on at level 3
	06:35:58	395.97	894	SWICS on at level 1
	06:38:06	398.10	881	Detector bias heater off
	06:40:46	400.77	852	Solar port heaters off
	06:41:50	401.83	861	WFOV BB heater off
	06:42:22	402.37	871	MFOV BB heater off
	06:42:54	402.90	851	Solar Port Heaters On
	06:43:26	403.43	891	SWICS off
End internal calibration sequence.				
02/11/90	06:50:22	410.37	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
02/11/90	06:57:50	417.83	822	Elevate to solar ports (Sun)
	06:58:22	418.37	814	Azimuth to position A

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Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
02/11/90	06:58:54	418.90	883	Detector bias heater on at level 2
	07:09:02	429.03	831	SMA shutter cycle on
	07:50:06	470.10	832	SMA shutter cycle off
	07:50:38	470.63	881	Detector bias heater off
	07:51:10	471.17	882	Detector bias heater on at level 1
	07:53:50	473.83	881	Detector bias heater off
	07:54:22	474.37	883	Detector bias heater on at level 2
	07:57:02	477.03	881	Detector bias heater off
	07:57:34	477.57	884	Detector bias heater on at level 3
	08:00:14	480.23	881	Detector bias heater off
	08:00:46	480.77	852	Solar port heaters off
	08:16:46	496.77	851	Solar port heaters on
	08:17:18	497.30	821	Elevate to internal source (stow)
	08:33:18	513.30	811	Azimuth to 0°
End solar calibration sequence.				
02/11/90	08:58:54	538.90	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
02/11/90	09:17:34	557.57	882	Detector bias heater on at level 1
	09:20:14	560.23	881	Detector bias heater off
	09:20:46	560.77	883	Detector bias heater on at level 2
	09:23:26	563.43	881	Detector bias heater off
	09:23:58	563.97	884	Detector bias heater on at level 3
	09:26:38	566.63	881	Detector bias heater off
End postcalibration sequence. Begin azimuth angle load commands for solar calibration.				
02/23/90	01:17:34	77.57	419	Address azimuth position A

Table 6. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
02/23/90	01:18:06	78.10	201	Data command, high byte
	01:19:10	79.17	1C3	Data command, low byte
End azimuth angle load commands (A = 33.83°). Begin preinternal calibration sequence.
02/23/90	03:28:46	208.77	882	Detector bias heater on at level 1
	03:31:26	211.43	881	Detector bias heater off
	03:31:58	211.97	883	Detector bias heater on at level 2
	03:34:38	214.63	881	Detector bias heater off
	03:35:10	215.17	884	Detector bias heater on at level 3
	03:37:50	217.83	881	Detector bias heater off
	04:37:02	277.03	821	Elevate to internal source (stow)
	04:53:02	293.03	862	WFOV BB heater on at temp. 1
	05:09:02	309.03	872	MFOV BB heater on at temp. 1
	06:14:06	374.10	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.
02/23/90	06:15:42	375.70	881	Detector bias heater off
	06:16:14	376.23	852	Solar port heaters off
	06:16:46	376.77	821	Elevate to internal source (stow)
	06:17:18	377.30	851	Solar port heaters on
	06:19:26	379.43	882	Detector bias heater on at level 1
	06:23:10	383.17	892	SWICS on at level 3
	06:26:22	386.37	881	Detector bias heater off
	06:30:06	390.10	862	WFOV BB heater on at temp. 1
	06:30:38	390.63	872	MFOV BB heater on at temp. 1
	06:31:42	391.70	891	SWICS off
	06:45:02	405.03	883	Detector bias heater on at level 2

Table 6. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
02/23/90	06:48:46	408.77	893	SWICS on at level 2
	06:51:58	411.97	881	Detector bias heater off
	06:55:42	415.70	863	WFOV BB heater on at temp. 2
	06:56:14	416.23	873	MFOV BB heater on at temp. 2
	06:57:18	417.30	891	SWICS off
	07:10:38	430.63	884	Detector bias heater on at level 3
	07:14:22	434.37	894	SWICS on at level 1
	07:16:30	436.50	881	Detector bias heater off
	07:19:10	439.17	852	Solar port heaters off
	07:20:14	440.23	861	WFOV BB heater off
	07:20:46	440.77	871	MFOV BB heater off
	07:21:18	441.30	851	Solar port heaters on
	07:21:50	441.83	891	SWICS off
End internal calibration sequence.				
02/23/90	07:28:46	448.77	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
02/23/90	07:36:14	456.23	822	Elevate to solar ports (Sun)
	07:36:46	456.77	814	Azimuth to position A
	07:37:18	457.30	883	Detector bias heater on at level 2
	07:47:26	467.43	831	SMA shutter cycle on
	08:28:30	508.50	832	SMA shutter cycle off
	08:29:02	509.03	881	Detector bias heater off
	08:29:34	509.57	882	Detector bias heater on at level 1
	08:32:14	512.23	881	Detector bias heater off
	08:32:46	512.77	883	Detector bias heater on at level 2
	08:35:26	515.43	881	Detector bias heater off

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
02/23/90	08:35:58	515.97	884	Detector bias heater on at level 3
	08:38:38	518.63	881	Detector bias heater off
	08:39:10	519.17	852	Solar port heaters off
	08:55:10	535.17	851	Solar port heaters on
	08:55:42	535.70	821	Elevate to internal source (stow)
	09:11:42	551.70	811	Azimuth to 0°
End solar calibration sequence.				
02/23/90	09:37:18	577.30	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
02/23/90	09:55:58	595.97	882	Detector bias heater on at level 1
	09:58:38	598.63	881	Detector bias heater off
	09:59:10	599.17	883	Detector bias heater on at level 2
	10:01:50	601.83	881	Detector bias heater off
	10:02:22	602.37	884	Detector bias heater on at level 3
	10:05:02	605.03	881	Detector bias heater off
End postcalibration sequence. Begin azimuth angle load commands for solar calibration.				
02/27/90	17:49:02	1069.03	419	Address azimuth position A
	17:50:06	1070.10	202	Data command, high byte
	17:51:10	1071.17	1E8	Data command, low byte
End azimuth angle load commands (A = 55.80°). Begin preinternal calibration sequence.				
02/28/90	09:05:18	545.30	882	Detector bias heater on at level 1
	09:07:58	547.97	881	Detector bias heater off
	09:08:30	548.50	883	Detector bias heater on at level 2
	09:11:10	551.17	881	Detector bias heater off

Table 6. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
02/28/90	09:11:42	551.70	884	Detector bias heater on at level 3
	09:14:22	554.37	881	Detector bias heater off
	10:13:34	613.57	821	Elevate to internal source (stow)
	10:29:34	629.57	862	WFOV BB heater on at temp. 1
	10:45:34	645.57	872	MFOV BB heater on at temp. 1
	11:50:38	710.63	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.
02/28/90	11:52:14	712.23	881	Detector bias heater off
	11:52:46	712.77	852	Solar port heaters off
	11:53:18	713.30	821	Elevate to internal source (stow)
	11:53:50	713.83	851	Solar port heaters on
	11:55:58	715.97	882	Detector bias heater on at level 1
	11:59:42	719.70	892	SWICS on at level 3
	12:02:54	722.90	881	Detector bias heater off
	12:06:38	726.63	862	WFOV BB heater on at temp. 1
	12:07:10	727.17	872	MFOV BB heater on at temp. 1
	12:08:14	728.23	891	SWICS off
	12:21:34	741.57	883	Detector bias heater on at level 2
	12:25:18	745.30	893	SWICS on at level 2
	12:28:30	748.50	881	Detector bias heater off
	12:32:14	752.23	863	WFOV BB heater on at temp. 2
	12:32:46	752.77	873	MFOV BB heater on at temp. 2
	12:33:50	753.83	891	SWICS off
	12:47:10	767.17	884	Detector bias heater on at level 3
	12:50:54	770.90	894	SWICS on at level 1

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
02/28/90	12:53:02	773.03	881	Detector bias heater off
	12:55:42	775.70	852	Solar port heaters off
	12:56:46	776.77	861	WFOV BB heater off
	12:57:18	777.30	871	MFOV BB heater off
	12:57:50	777.83	851	Solar port heaters on
	12:58:22	778.37	891	SWICS off
End internal calibration sequence.				
02/28/90	13:05:18	785.30	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
02/28/90	13:12:46	792.77	822	Elevate to solar ports (Sun)
	13:13:18	793.30	814	Azimuth to position A
	13:13:50	793.83	883	Detector bias heater on at level 2
	13:23:58	803.97	831	SMA shutter cycle on
	14:05:02	845.03	832	SMA shutter cycle off
	14:05:34	845.57	881	Detector bias heater off
	14:06:06	846.10	882	Detector bias heater on at level 1
	14:08:46	848.77	881	Detector bias heater off
	14:09:18	849.30	883	Detector bias heater on at level 2
	14:11:58	851.97	881	Detector bias heater off
	14:12:30	852.50	884	Detector bias heater on at level 3
	14:15:10	855.17	881	Detector bias heater off
	14:15:42	855.70	852	Solar port heaters off
	14:31:42	871.70	851	Solar port heaters on
	14:32:14	872.23	821	Elevate to internal source (stow)
	14:48:14	888.23	811	Azimuth to 0°
End solar calibration sequence.				

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
02/28/90	15:13:50	913.83	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
02/28/90	15:32:30	932.50	882	Detector bias heater on at level 1
	15:35:10	935.17	881	Detector bias heater off
	15:35:42	935.70	883	Detector bias heater on at level 2
	15:38:22	938.37	881	Detector bias heater off
	15:38:54	938.90	884	Detector bias heater on at level 3
	15:41:34	941.57	881	Detector bias heater off
End postcalibration sequence.				
03/06/90	19:06:05			Yaw maneuver to X-axis negative
Begin azimuth angle load commands for solar calibration.				
03/13/90	19:44:14	1184.23	419	Address azimuth position A
	19:44:46	1184.77	203	Data command, high byte
	19:45:50	1185.83	14F	Data command, low byte
End azimuth angle load commands (A = 63.53°). Begin preinternal calibration sequence.				
03/14/90	06:34:22	394.37	882	Detector bias heater on at level 1
	06:37:02	397.03	881	Detector bias heater off
	06:37:34	397.57	883	Detector bias heater on at level 2
	06:40:14	400.23	881	Detector bias heater off
	06:40:46	400.77	884	Detector bias heater on at level 3
	06:43:26	403.43	881	Detector bias heater off
	08:13:34	493.57	821	Elevate to internal source (stow)
	08:29:34	509.57	862	WFOV BB heater on at temp. 1
	08:45:34	525.57	872	MFOV BB heater on at temp. 1
	09:50:38	590.63	823	Elevate to nadir (Earth)

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Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
End preinternal calibration sequence. Begin internal calibration sequence.				
03/14/90	09:52:14	592.23	881	Detector bias heater off
	09:52:46	592.77	852	Solar port heaters off
	09:53:18	593.30	821	Elevate to internal source (stow)
	09:53:50	593.83	851	Solar port heaters on
	09:55:58	595.97	882	Detector bias heater on at level 1
	09:59:42	599.70	892	SWICS on at level 3
	10:02:54	602.90	881	Detector bias heater off
	10:06:38	606.63	862	WFOV BB heater on at temp. 1
	10:07:10	607.17	872	MFOV BB heater on at temp. 1
	10:08:14	608.23	891	SWICS off
	10:21:34	621.57	883	Detector bias heater on at level 2
	10:25:18	625.30	893	SWICS on at level 2
	10:28:30	628.50	881	Detector bias heater off
	10:32:14	632.23	863	WFOV BB heater on at temp. 2
	10:32:46	632.77	873	MFOV BB heater on at temp. 2
	10:33:50	633.83	891	SWICS off
	10:47:10	647.17	884	Detector bias heater on at level 3
	10:50:54	650.90	894	SWICS on at level 1
	10:53:02	653.03	881	Detector bias heater off
	10:55:42	655.70	852	Solar port heaters off
	10:56:46	656.77	861	WFOV BB heater off
	10:57:18	657.30	871	MFOV BB heater off
	10:57:50	657.83	851	Solar port heaters on
	10:58:22	658.37	891	SWICS off

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
End internal calibration sequence.				
03/14/90	11:05:18	665.30	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
03/14/90	11:12:46	672.77	822	Elevate to solar ports (Sun)
	11:13:18	673.30	814	Azimuth to position A
	11:13:50	673.83	883	Detector bias heater on at level 2
	11:23:58	683.97	831	SMA shutter cycle on
	12:05:02	725.03	832	SMA shutter cycle off
	12:05:34	725.57	881	Detector bias heater off
	12:06:06	726.10	882	Detector bias heater on at level 1
	12:08:46	728.77	881	Detector bias heater off
	12:09:18	729.30	883	Detector bias heater on at level 2
	12:11:58	731.97	881	Detector bias heater off
	12:12:30	732.50	884	Detector bias heater on at level 3
	12:15:10	735.17	881	Detector bias heater off
	12:15:42	735.70	852	Solar port heaters off
	12:31:42	751.70	851	Solar port heaters on
	12:32:14	752.23	821	Elevate to internal source (stow)
	12:48:14	768.23	811	Azimuth to 0°
End solar calibration sequence.				
03/14/90	13:13:50	793.83	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
03/14/90	14:38:06	878.10	882	Detector bias heater on at level 1
	14:40:46	880.77	881	Detector bias heater off
	14:41:18	881.30	883	Detector bias heater on at level 2

Table 6. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
03/14/90	14:43:58	883.97	881	Detector bias heater off
	14:44:30	884.50	884	Detector bias heater on at level 3
	14:47:10	887.17	881	Detector bias heater off
End postcalibration sequence. Begin azimuth angle load commands for solar calibration.				
03/27/90	18:42:22	1122.37	419	Address azimuth position A
	18:42:54	1122.90	201	Data command, high byte
	18:43:58	1123.97	18D	Data command, low byte
End azimuth angle load commands (A = 29.78°). Begin preinternal calibration sequence.				
03/28/90	07:18:38	438.63	882	Detector bias heater on at level 1
	07:21:18	441.30	881	Detector bias heater off
	07:21:50	441.83	883	Detector bias heater on at level 2
	07:24:30	444.50	881	Detector bias heater off
	07:25:02	445.03	884	Detector bias heater on at level 3
	07:27:42	447.70	881	Detector bias heater off
	08:57:50	537.83	821	Elevate to internal source (stow)
	09:13:50	553.83	862	WFOV BB heater on at temp. 1
	09:29:50	569.83	872	MFOV BB heater on at temp. 1
	10:34:54	634.90	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
03/28/90	10:36:30	636.50	881	Detector bias heater off
	10:37:02	637.03	852	Solar port heaters off
	10:37:34	637.57	821	Elevate to internal source (stow)
	10:38:06	638.10	851	Solar port heaters on
	10:40:14	640.23	882	Detector bias heater on at level 1

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
03/28/90	10:43:58	643.97	892	SWICS on at level 3
	10:47:10	647.17	881	Detector bias heater off
	10:50:54	650.90	862	WFOV BB heater on at temp. 1
	10:51:26	651.43	872	MFOV BB heater on at temp. 1
	10:52:30	652.50	891	SWICS off
	11:05:50	665.83	883	Detector bias heater on at level 2
	11:09:34	669.57	893	SWICS on at level 2
	11:12:46	672.77	881	Detector bias heater off
	11:16:30	676.50	863	WFOV BB heater on at temp. 2
	11:17:02	677.03	873	MFOV BB heater on at temp. 2
	11:18:06	678.10	891	SWICS off
	11:31:26	691.43	884	Detector bias heater on at level 3
	11:35:10	695.17	894	SWICS on at level 1
	11:37:18	697.30	881	Detector bias heater off
	11:39:58	699.97	852	Solar port heaters off
	11:41:02	701.03	861	WFOV BB heater off
	11:41:34	701.57	871	MFOV BB heater off
	11:42:06	702.10	851	Solar port heaters on
	11:42:38	702.63	891	SWICS off
End internal calibration sequence.				
03/28/90	11:49:34	709.57	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
03/28/90	11:57:02	717.03	822	Elevate to solar ports (Sun)
	11:57:34	717.57	814	Azimuth to position A
	11:58:06	718.10	883	Detector bias heater on at level 2
	12:08:14	728.23	831	SMA shutter cycle on

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
03/28/90	12:49:18	769.30	832	SMA shutter cycle off
	12:49:50	769.83	881	Detector bias heater off
	12:50:22	770.37	882	Detector bias heater on at level 1
	12:53:02	773.03	881	Detector bias heater off
	12:53:34	773.57	883	Detector bias heater on at level 2
	12:56:14	776.23	881	Detector bias heater off
	12:56:46	776.77	884	Detector bias heater on at level 3
	12:59:26	779.43	881	Detector bias heater off
	12:59:58	779.97	852	Solar port heaters off
	13:15:58	795.97	851	Solar port heaters on
	13:16:30	796.50	821	Elevate to internal source (stow)
	13:32:30	812.50	811	Azimuth to 0°
End solar calibration sequence.				
03/28/90	13:58:06	838.10	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
03/28/90	15:22:22	922.37	882	Detector bias heater on at level 1
	15:25:02	925.03	881	Detector bias heater off
	15:25:34	925.57	883	Detector bias heater on at level 2
	15:28:14	928.23	881	Detector bias heater off
	15:28:46	928.77	884	Detector bias heater on at level 3
	15:31:26	931.43	881	Detector bias heater off
End postcalibration sequence. Begin azimuth angle load commands for solar calibration.				
04/10/90	17:54:22	1074.37	419	Address azimuth position A
	17:54:54	1074.90	204	Data command, high byte
	17:55:58	1075.97	104	Data command, low byte

Table 6. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description

Date	hr:min:sec	Minutes of day	Hex command	Event description
End azimuth angle load commands (A = 77.10°). Begin preinternal calibration sequence.			
04/11/90	08:01:18	481.30	882	Detector bias heater on at level 1
	08:03:58	483.97	881	Detector bias heater off
	08:04:30	484.50	883	Detector bias heater on at level 2
	08:07:10	487.17	881	Detector bias heater off
	08:07:42	487.70	884	Detector bias heater on at level 3
	08:10:22	490.37	881	Detector bias heater off
	09:39:58	579.97	821	Elevate to internal source (stow)
	09:55:58	595.97	862	WFOV BB heater on at temp. 1
	10:11:58	611.97	872	MFOV BB heater on at temp. 1
	11:17:02	677.03	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.			
04/11/90	11:18:38	678.63	881	Detector bias heater off
	11:19:10	679.17	852	Solar port heaters off
	11:19:42	679.70	821	Elevate to internal source (stow)
	11:20:14	680.23	851	Solar port heaters on
	11:22:22	682.37	882	Detector bias heater on at level 1
	11:26:06	686.10	892	SWICS on at level 3
	11:29:18	689.30	881	Detector bias heater off
	11:33:02	693.03	862	WFOV BB heater on at temp. 1
	11:33:34	693.57	872	MFOV BB heater on at temp. 1
	11:34:38	694.63	891	SWICS off
	11:47:58	707.97	883	Detector bias heater on at level 2
	11:51:42	711.70	893	SWICS on at level 2
	11:54:54	714.90	881	Detector bias heater off

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
04/11/90	11:58:38	718.63	863	WFOV BB heater on at temp. 2
	11:59:10	719.17	873	MFOV BB heater on at temp. 2
	12:00:14	720.23	891	SWICS off
	12:13:34	733.57	884	Detector bias heater on at level 3
	12:17:18	737.30	894	SWICS on at level 1
	12:19:26	739.43	881	Detector bias heater off
	12:22:06	742.10	852	Solar port heaters off
	12:23:10	743.17	861	WFOV BB heater off
	12:23:42	743.70	871	MFOV BB heater off
	12:24:14	744.23	851	Solar port heaters on
	12:24:46	744.77	891	SWICS off
End internal calibration sequence.				
04/11/90	12:31:42	751.70	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
04/11/90	12:39:10	759.17	822	Elevate to solar ports (Sun)
	12:39:42	759.70	814	Azimuth to position A
	12:40:14	760.23	883	Detector bias heater on at level 2
	12:50:22	770.37	831	SMA shutter cycle on
	13:31:26	811.43	832	SMA shutter cycle off
	13:31:58	811.97	881	Detector bias heater off
	13:32:30	812.50	882	Detector bias heater on at level 1
	13:35:10	815.17	881	Detector bias heater off
	13:35:42	815.70	883	Detector bias heater on at level 2
	13:38:22	818.37	881	Detector bias heater off
	13:38:54	818.90	884	Detector bias heater on at level 3
	13:41:34	821.57	881	Detector bias heater off

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
04/11/90	13:42:06	822.10	852	Solar port heaters off
	13:58:06	838.10	851	Solar port heaters on
	13:58:38	838.63	821	Elevate to internal source (stow)
	14:14:38	854.63	811	Azimuth to 0°
End solar calibration sequence.				
04/11/90	14:40:14	880.23	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
04/11/90	16:04:30	964.50	882	Detector bias heater on at level 1
	16:07:10	967.17	881	Detector bias heater off
	16:07:42	967.70	883	Detector bias heater on at level 2
	16:10:22	970.37	881	Detector bias heater off
	16:10:54	970.90	884	Detector bias heater on at level 3
	16:13:34	973.57	881	Detector bias heater off
End postcalibration sequence.				
04/11/90	18:33:17			Yaw maneuver to X-axis positive
Begin azimuth angle load commands for solar calibration.				
04/24/90	12:19:58	739.97	419	Address azimuth position A
	12:20:30	740.50	202	Data command, high byte
	12:21:34	741.57	1D0	Data command, low byte
End azimuth angle load commands (A = 54.00°). Begin preinternal calibration sequence.				
04/25/90	08:24:46	504.77	882	Detector bias heater on at level 1
	08:27:26	507.43	881	Detector bias heater off
	08:27:58	507.97	883	Detector bias heater on at level 2
	08:30:38	510.63	881	Detector bias heater off
	08:31:10	511.17	884	Detector bias heater on at level 3

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
04/25/90	08:33:50	513.83	881	Detector bias heater off
	09:33:02	573.03	821	Elevate to internal source (stow)
	09:49:02	589.03	862	WFOV BB heater on at temp. 1
	10:05:02	605.03	872	MFOV BB heater on at temp. 1
	11:10:06	670.10	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
04/25/90	11:11:42	671.70	881	Detector bias heater off
	11:12:14	672.23	852	Solar port heaters off
	11:12:46	672.77	821	Elevate to internal source (stow)
	11:13:18	673.30	851	Solar port heaters on
	11:15:26	675.43	882	Detector bias heater on at level 1
	11:19:10	679.17	892	SWICS on at level 3
	11:22:22	682.37	881	Detector bias heater off
	11:26:06	686.10	862	WFOV BB heater on at temp. 1
	11:26:38	686.63	872	MFOV BB heater on at temp. 1
	11:27:42	687.70	891	SWICS off
	11:41:02	701.03	883	Detector bias heater on at level 2
	11:44:46	704.77	893	SWICS on at level 2
	11:47:58	707.97	881	Detector bias heater off
	11:51:42	711.70	863	WFOV BB heater on at temp. 2
	11:52:14	712.23	873	MFOV BB heater on at temp. 2
	11:53:18	713.30	891	SWICS off
	12:06:38	726.63	884	Detector bias heater on at level 3
	12:10:22	730.37	894	SWICS on at level 1
	12:12:30	732.50	881	Detector bias heater off

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
04/25/90	12:15:10	735.17	852	Solar port heaters off
	12:16:14	736.23	861	WFOV BB heater off
	12:16:46	736.77	871	MFOV BB heater off
	12:17:18	737.30	851	Solar port heaters on
	12:17:50	737.83	891	SWICS off
End internal calibration sequence.				
04/25/90	12:24:46	744.77	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
04/25/90	12:32:14	752.23	822	Elevate to solar ports (Sun)
	12:32:46	752.77	814	Azimuth to position A
	12:33:18	753.30	883	Detector bias heater on at level 2
	12:43:26	763.43	831	SMA shutter cycle on
	13:24:30	804.50	832	SMA shutter cycle off
	13:25:02	805.03	881	Detector bias heater off
	13:25:34	805.57	882	Detector bias heater on at level 1
	13:28:14	808.23	881	Detector bias heater off
	13:28:46	808.77	883	Detector bias heater on at level 2
	13:31:26	811.43	881	Detector bias heater off
	13:31:58	811.97	884	Detector bias heater on at level 3
	13:34:38	814.63	881	Detector bias heater off
	13:35:10	815.17	852	Solar port heaters off
	13:51:10	831.17	851	Solar port heaters on
	13:51:42	831.70	821	Elevate to internal source (stow)
	14:07:42	847.70	811	Azimuth to 0°
End solar calibration sequence.				
04/25/90	14:33:18	873.30	823	Elevate to nadir (Earth)

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Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
End solar calibration sequence. Begin postcalibration sequence.				
04/25/90	14:51:58	891.97	882	Detector bias heater on at level 1
	14:54:38	894.63	881	Detector bias heater off
	14:55:10	895.17	883	Detector bias heater on at level 2
	14:57:50	897.83	881	Detector bias heater off
	14:58:22	898.37	884	Detector bias heater on at level 3
	15:01:02	901.03	881	Detector bias heater off
End postcalibration sequence. Begin azimuth angle load commands for solar calibration.				
05/08/90	14:18:22	858.37	419	Address azimuth position A
	14:18:54	858.90	203	Data command, high byte
	14:19:58	859.97	130	Data command, low byte
End azimuth angle load commands (A = 61.20°). Begin preinternal calibration sequence.				
05/09/90	07:28:46	448.77	882	Detector bias heater on at level 1
	07:31:26	451.43	881	Detector bias heater off
	07:31:58	451.97	883	Detector bias heater on at level 2
	07:34:38	454.63	881	Detector bias heater off
	07:35:10	455.17	884	Detector bias heater on at level 3
	07:37:50	457.83	881	Detector bias heater off
	08:37:02	517.03	821	Elevate to internal source (stow)
	08:53:02	533.03	862	WFOV BB heater on at temp. 1
	09:09:02	549.03	872	MFOV BB heater on at temp. 1
	10:14:06	614.10	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
05/09/90	10:15:42	615.70	881	Detector bias heater off

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
05/09/90	10:16:14	616.23	852	Solar port heaters off
	10:16:46	616.77	821	Elevate to internal source (stow)
	10:17:18	617.30	851	Solar port heaters on
	10:19:26	619.43	882	Detector bias heater on at level 1
	10:23:10	623.17	892	SWICS on at level 3
	10:26:22	626.37	881	Detector bias heater off
	10:30:06	630.10	862	WFOV BB heater on at temp. 1
	10:30:38	630.63	872	MFOV BB heater on at temp. 1
	10:31:42	631.70	891	SWICS off
	10:45:02	645.03	883	Detector bias heater on at level 2
	10:48:46	648.77	893	SWICS on at level 2
	10:51:58	651.97	881	Detector bias heater off
	10:55:42	655.70	863	WFOV BB heater on at temp. 2
	10:56:14	656.23	873	MFOV BB heater on at temp. 2
	10:57:18	657.30	891	SWICS off
	11:10:38	670.63	884	Detector bias heater on at level 3
	11:14:22	674.37	894	SWICS on at level 1
	11:16:30	676.50	881	Detector bias heater off
	11:19:10	679.17	852	Solar port heaters off
	11:20:14	680.23	861	WFOV BB heater off
	11:20:46	680.77	871	MFOV BB heater off
	11:21:18	681.30	851	Solar port heaters on
	11:21:50	681.83	891	SWICS off
End internal calibration sequence.				
05/09/90	11:28:46	688.77	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
05/09/90	11:36:14	696.23	822	Elevate to solar ports (Sun)
	11:36:46	696.77	814	Azimuth to position A
	11:37:18	697.30	883	Detector bias heater on at level 2
	11:47:26	707.43	831	SMA shutter cycle on
	12:28:30	748.50	832	SMA shutter cycle off
	12:29:02	749.03	881	Detector bias heater off
	12:29:34	749.57	882	Detector bias heater on at level 1
	12:32:14	752.23	881	Detector bias heater off
	12:32:46	752.77	883	Detector bias heater on at level 2
	12:35:26	755.43	881	Detector bias heater off
	12:35:58	755.97	884	Detector bias heater on at level 3
	12:38:38	758.63	881	Detector bias heater off
	12:39:10	759.17	852	Solar port heaters off
	12:55:10	775.17	851	Solar port heaters on
	12:55:42	775.70	821	Elevate to internal source (stow)
	13:11:42	791.70	811	Azimuth to 0°
End solar calibration sequence.				
05/09/90	13:37:18	817.30	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
05/09/90	13:55:58	835.97	882	Detector bias heater on at level 1
	13:58:38	838.63	881	Detector bias heater off
	13:59:10	839.17	883	Detector bias heater on at level 2
	14:01:50	841.83	881	Detector bias heater off
	14:02:22	842.37	884	Detector bias heater on at level 3
	14:05:02	845.03	881	Detector bias heater off

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
End postcalibration sequence.				
05/15/90	17:24:13			Yaw maneuver to X-axis negative
Begin azimuth angle load commands for solar calibration.				
05/22/90	11:43:42	703.70	419	Address azimuth position A
	11:44:14	704.23	203	Data command, high byte
Data command, low byte missing. Begin azimuth angle load commands for solar calibration.				
05/22/90	11:54:22	714.37	419	Address azimuth position A
	11:54:54	714.90	203	Data command, high byte
	11:55:58	715.97	15B	Data command, low byte
End azimuth angle load commands (A = 64.43°). Begin azimuth angle load commands for solar calibration.				
05/23/90	17:03:42	1023.70	419	Address azimuth position A
	17:04:14	1024.23	203	Data command, high byte
	17:05:18	1025.30	121	Data command, low byte
End azimuth angle load commands (A = 60.08°). Begin preinternal calibration sequence.				
05/24/90	06:40:46	400.77	882	Detector bias heater on at level 1
	06:43:26	403.43	881	Detector bias heater off
	06:43:58	403.97	883	Detector bias heater on at level 2
	06:46:38	406.63	881	Detector bias heater off
	06:47:10	407.17	884	Detector bias heater on at level 3
	06:49:50	409.83	881	Detector bias heater off
	08:19:58	499.97	821	Elevate to internal source (stow)
	08:35:58	515.97	862	WFOV BB heater on at temp. 1
	08:51:58	531.97	872	MFOV BB heater on at temp. 1
	09:57:02	597.03	823	Elevate to nadir (Earth)

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
End preinternal calibration sequence. Begin internal calibration sequence.
05/24/90	09:58:38	598.63	881	Detector bias heater off
	09:59:10	599.17	852	Solar port heaters off
	09:59:42	599.70	821	Elevate to internal source (stow)
	10:00:14	600.23	851	Solar port heaters on
	10:02:22	602.37	882	Detector bias heater on at level 1
	10:06:06	606.10	892	SWICS on at level 3
	10:09:18	609.30	881	Detector bias heater off
	10:13:02	613.03	862	WFOV BB heater on at temp. 1
	10:13:34	613.57	872	MFOV BB heater on at temp. 1
	10:14:38	614.63	891	SWICS off
	10:27:58	627.97	883	Detector bias heater on at level 2
	10:31:42	631.70	893	SWICS on at level 2
	10:34:54	634.90	881	Detector bias heater off
	10:38:38	638.63	863	WFOV BB heater on at temp. 2
	10:39:10	639.17	873	MFOV BB heater on at temp. 2
	10:40:14	640.23	891	SWICS off
	10:53:34	653.57	884	Detector bias heater on at level 3
	10:57:18	657.30	894	SWICS on at level 1
	10:59:26	659.43	881	Detector bias heater off
	11:02:06	662.10	852	Solar port heaters off
	11:03:10	663.17	861	WFOV BB heater off
	11:03:42	663.70	871	MFOV BB heater off
	11:04:14	664.23	851	Solar port heaters on
	11:04:46	664.77	891	SWICS off

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
End internal calibration sequence.				

Date	hr:min:sec	Minutes of day	Hex command	Event description
		End internal calibration sequence.		
05/24/90	11:11:42	671.70	823	Elevate to nadir (Earth)
		Begin solar calibration sequence.		
05/24/90	11:19:10	679.17	822	Elevate to solar ports (Sun)
	11:19:42	679.70	814	Azimuth to position A
	11:20:14	680.23	883	Detector bias heater on at level 2
	11:30:22	690.37	831	SMA shutter cycle on
	12:11:26	731.43	832	SMA shutter cycle off
	12:11:58	731.97	881	Detector bias heater off
	12:12:30	732.50	882	Detector bias heater on at level 1
	12:15:10	735.17	881	Detector bias heater off
	12:15:42	735.70	883	Detector bias heater on at level 2
	12:18:22	738.37	881	Detector bias heater off
	12:18:54	738.90	884	Detector bias heater on at level 3
	12:21:34	741.57	881	Detector bias heater off
	12:22:06	742.10	852	Solar port heaters off
	12:38:06	758.10	851	Solar port heaters on
	12:38:38	758.63	821	Elevate to internal source (stow)
	12:54:38	774.63	811	Azimuth to 0°
		End solar calibration sequence.		
05/24/90	13:20:14	800.23	823	Elevate to nadir (Earth)
		End solar calibration sequence. Begin postcalibration sequence.		
05/24/90	14:44:30	884.50	882	Detector bias heater on at level 1
	14:47:10	887.17	881	Detector bias heater off
	14:47:42	887.70	883	Detector bias heater on at level 2

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
05/24/90	14:50:22	890.37	881	Detector bias heater off
	14:50:54	890.90	884	Detector bias heater on at level 3
	14:53:34	893.57	881	Detector bias heater off
End postcalibration sequence. Begin azimuth angle load commands for solar calibration.				
05/29/90	17:33:02	1053.03	419	Address azimuth position A
	17:33:34	1053.57	201	Data command, high byte
	17:34:38	1054.63	1C8	Data command, low byte
End azimuth angle load commands (A = 34.20°). Begin preinternal calibration sequence.				
05/30/90	02:42:54	162.90	882	Detector bias heater on at level 1
	02:45:34	165.57	881	Detector bias heater off
	02:46:06	166.10	883	Detector bias heater on at level 2
	02:48:46	168.77	881	Detector bias heater off
	02:49:18	169.30	884	Detector bias heater on at level 3
	02:51:58	171.97	881	Detector bias heater off
	04:21:34	261.57	821	Elevate to internal source (stow)
	04:37:34	277.57	862	WFOV BB heater on at temp. 1
	04:53:34	293.57	872	MFOV BB heater on at temp. 1
	05:58:38	358.63	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
05/30/90	06:00:14	360.23	881	Detector bias heater off
	06:00:46	360.77	852	Solar port heaters off
	06:01:18	361.30	821	Elevate to internal source (stow)
	06:01:50	361.83	851	Solar port heaters on
	06:03:58	363.97	882	Detector bias heater on at level 1

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
05/30/90	06:07:42	367.70	892	SWICS on at level 3
	06:10:54	370.90	881	Detector bias heater off
	06:14:38	374.63	862	WFOV BB heater on at temp. 1
	06:15:10	375.17	872	MFOV BB heater on at temp. 1
	06:16:14	376.23	891	SWICS off
	06:29:34	389.57	883	Detector bias heater on at level 2
	06:33:18	393.30	893	SWICS on at level 2
	06:36:30	396.50	881	Detector bias heater off
	06:40:14	400.23	863	WFOV BB heater on at temp. 2
	06:40:46	400.77	873	MFOV BB heater on at temp. 2
	06:41:50	401.83	891	SWICS off
	06:55:10	415.17	884	Detector bias heater on at level 3
	06:58:54	418.90	894	SWICS on at level 1
	07:01:02	421.03	881	Detector bias heater off
	07:03:42	423.70	852	Solar port heaters off
	07:04:46	424.77	861	WFOV BB heater off
	07:05:18	425.30	871	MFOV BB heater off
	07:05:50	425.83	851	Solar port heaters on
	07:06:22	426.37	891	SWICS off
End internal calibration sequence.				
05/30/90	07:13:18	433.30	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
05/30/90	07:20:46	440.77	822	Elevate to solar ports (Sun)
	07:21:18	441.30	814	Azimuth to position A
	07:21:50	441.83	883	Detector bias heater on at level 2
	07:31:58	451.97	831	SMA shutter cycle on

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
05/30/90	08:13:02	493.03	832	SMA shutter cycle off
	08:13:34	493.57	881	Detector bias heater off
	08:14:06	494.10	882	Detector bias heater on at level 1
	08:16:46	496.77	881	Detector bias heater off
	08:17:18	497.30	883	Detector bias heater on at level 2
	08:19:58	499.97	881	Detector bias heater off
	08:20:30	500.50	884	Detector bias heater on at level 3
	08:23:10	503.17	881	Detector bias heater off
	08:23:42	503.70	852	Solar port heaters off
	08:39:42	519.70	851	Solar port heaters on
	08:40:14	520.23	821	Elevate to internal source (stow)
	08:56:14	536.23	811	Azimuth to 0°
End solar calibration sequence.				
05/30/90	09:21:50	561.83	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
05/30/90	10:46:06	646.10	882	Detector bias heater on at level 1
	10:48:46	648.77	881	Detector bias heater off
	10:49:18	649.30	883	Detector bias heater on at level 2
	10:51:58	651.97	881	Detector bias heater off
	10:52:30	652.50	884	Detector bias heater on at level 3
	10:55:10	655.17	881	Detector bias heater off
End postcalibration sequence. Begin azimuth angle load commands for solar calibration.				
06/13/90	13:09:02	789.03	419	Address azimuth position A
	13:09:34	789.57	201	Data command, high byte
	13:10:38	790.63	1A3	Data command, low byte

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
End azimuth angle load commands (A = 31.43°). Begin preinternal calibration sequence.				
06/14/90	03:52:46	232.77	882	Detector bias heater on at level 1
	03:55:26	235.43	881	Detector bias heater off
	03:55:58	235.97	883	Detector bias heater on at level 2
	03:58:38	238.63	881	Detector bias heater off
	03:59:10	239.17	884	Detector bias heater on at level 3
	04:01:50	241.83	881	Detector bias heater off
	05:31:58	331.97	821	Elevate to internal source (stow)
	05:47:58	347.97	862	WFOV BB heater on at temp. 1
	06:03:58	363.97	872	MFOV BB heater on at temp. 1
	07:09:02	429.03	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
06/14/90	07:10:38	430.63	881	Detector bias heater off
	07:11:10	431.17	852	Solar port heaters off
	07:11:42	431.70	821	Elevate to internal source (stow)
	07:12:14	432.23	851	Solar port heaters on
	07:14:22	434.37	882	Detector bias heater on at level 1
	07:18:06	438.10	892	SWICS on at level 3
	07:21:18	441.30	881	Detector bias heater off
	07:25:02	445.03	862	WFOV BB heater on at temp. 1
	07:25:34	445.57	872	MFOV BB heater on at temp. 1
	07:26:38	446.63	891	SWICS off
	07:39:58	459.97	883	Detector bias heater on at level 2
	07:43:42	463.70	893	SWICS on at level 2
	07:46:54	466.90	881	Detector bias heater off

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
06/14/90	07:50:38	470.63	863	WFOV BB heater on at temp. 2
	07:51:10	471.17	873	MFOV BB heater on at temp. 2
	07:52:14	472.23	891	SWICS off
	08:05:34	485.57	884	Detector bias heater on at level 3
	08:09:18	489.30	894	SWICS on at level 1
	08:11:26	491.43	881	Detector bias heater off
	08:14:06	494.10	852	Solar port heaters off
	08:15:10	495.17	861	WFOV BB heater off
	08:15:42	495.70	871	MFOV BB heater off
	08:16:14	496.23	851	Solar port heaters on
	08:16:46	496.77	891	SWICS off
End internal calibration sequence.				
06/14/90	08:23:42	503.70	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
06/14/90	08:31:10	511.17	822	Elevate to solar ports (Sun)
	08:31:42	511.70	814	Azimuth to position A
	08:32:14	512.23	883	Detector bias heater on at level 2
	08:42:22	522.37	831	SMA shutter cycle on
	09:23:26	563.43	832	SMA shutter cycle off
	09:23:58	563.97	881	Detector bias heater off
	09:24:30	564.50	882	Detector bias heater on at level 1
	09:27:10	567.17	881	Detector bias heater off
	09:27:42	567.70	883	Detector bias heater on at level 2
	09:30:22	570.37	881	Detector bias heater off
	09:30:54	570.90	884	Detector bias heater on at level 3
	09:33:34	573.57	881	Detector bias heater off

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
06/14/90	09:34:06	574.10	852	Solar port heaters off
	09:50:06	590.10	851	Solar port heaters on
	09:50:38	590.63	821	Elevate to internal source (stow)
	10:06:38	606.63	811	Azimuth to 0°
End solar calibration sequence.				
06/14/90	10:32:14	632.23	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
06/14/90	11:56:30	716.50	882	Detector bias heater on at level 1
	11:59:10	719.17	881	Detector bias heater off
	11:59:42	719.70	883	Detector bias heater on at level 2
	12:02:22	722.37	881	Detector bias heater off
	12:02:54	722.90	884	Detector bias heater on at level 3
	12:05:34	725.57	881	Detector bias heater off
End postcalibration sequence. Begin azimuth angle load commands for solar calibration.				
06/19/90	16:26:54	986.90	419	Address azimuth position A
	16:27:26	987.43	203	Data command, high byte
	16:28:30	988.50	10B	Data command, low byte
End azimuth angle load commands (A = 58.43°). Begin preinternal calibration sequence.				
06/20/90	08:01:50	481.83	882	Detector bias heater on at level 1
	08:04:30	484.50	881	Detector bias heater off
	08:05:02	485.03	883	Detector bias heater on at level 2
	08:07:42	487.70	881	Detector bias heater off
	08:08:14	488.23	884	Detector bias heater on at level 3
	08:10:54	490.90	881	Detector bias heater off

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
06/20/90	09:40:30	580.50	821	Elevate to internal source (stow)
	09:56:30	596.50	862	WFOV BB heater on at temp. 1
	10:12:30	612.50	872	MFOV BB heater on at temp. 1
	11:17:34	677.57	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
06/20/90	11:19:10	679.17	881	Detector bias heater off
	11:19:42	679.70	852	Solar port heaters off
	11:20:14	680.23	821	Elevate to internal source (stow)
	11:20:46	680.77	851	Solar port heaters on
	11:22:54	682.90	882	Detector bias heater on at level 1
	11:26:38	686.63	892	SWICS on at level 3
	11:29:50	689.83	881	Detector bias heater off
	11:33:34	693.57	862	WFOV BB heater on at temp. 1
	11:34:06	694.10	872	MFOV BB heater on at temp. 1
	11:35:10	695.17	891	SWICS off
	11:48:30	708.50	883	Detector bias heater on at level 2
	11:52:14	712.23	893	SWICS on at level 2
	11:55:26	715.43	881	Detector bias heater off
	11:59:10	719.17	863	WFOV BB heater on at temp. 2
	11:59:42	719.70	873	MFOV BB heater on at temp. 2
	12:00:46	720.77	891	SWICS off
	12:14:06	734.10	884	Detector bias heater on at level 3
	12:17:50	737.83	894	SWICS on at level 1
	12:19:58	739.97	881	Detector bias heater off
	12:22:38	742.63	852	Solar port heaters off

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Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
06/20/90	12:23:42	743.70	861	WFOV BB heater off
	12:24:14	744.23	871	MFOV BB heater off
	12:24:46	744.77	851	Solar port heaters on
	12:25:18	745.30	891	SWICS off
End internal calibration sequence.				
06/20/90	12:32:14	752.23	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
06/20/90	12:39:42	759.70	822	Elevate to solar ports (Sun)
	12:40:14	760.23	814	Azimuth to position A
	12:40:46	760.77	883	Detector bias heater on at level 2
	12:50:54	770.90	831	SMA shutter cycle on
	13:31:58	811.97	832	SMA shutter cycle off
	13:32:30	812.50	881	Detector bias heater off
	13:33:02	813.03	882	Detector bias heater on at level 1
	13:35:42	815.70	881	Detector bias heater off
	13:36:14	816.23	883	Detector bias heater on at level 2
	13:38:54	818.90	881	Detector bias heater off
	13:39:26	819.43	884	Detector bias heater on at level 3
	13:42:06	822.10	881	Detector bias heater off
	13:42:38	822.63	852	Solar port heaters off
	13:58:38	838.63	851	Solar port heaters on
	13:59:10	839.17	821	Elevate to internal source (stow)
	14:15:10	855.17	811	Azimuth to 0°
End solar calibration sequence.				
06/20/90	14:40:46	880.77	823	Elevate to nadir (Earth)
End solar calibration sequence.				

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
Begin postcalibration sequence.			
06/20/90	16:05:02	965.03	882	Detector bias heater on at level 1
	16:07:42	967.70	881	Detector bias heater off
	16:08:14	968.23	883	Detector bias heater on at level 2
	16:10:54	970.90	881	Detector bias heater off
	16:11:26	971.43	884	Detector bias heater on at level 3
	16:14:06	974.10	881	Detector bias heater off
End postcalibration sequence.			
06/27/90	17:59:09			Yaw maneuver to X-axis positive
Begin azimuth angle load commands for solar calibration.			
07/03/90	13:35:10	815.17	419	Address azimuth position A
	13:36:14	816.23	203	Data command, high byte
	13:37:18	817.30	191	Data command, low byte
End azimuth angle load commands (A = 68.48°). Begin preinternal calibration sequence.			
07/04/90	08:18:54	498.90	882	Detector bias heater on at level 1
	08:21:34	501.57	881	Detector bias heater off
	08:22:06	502.10	883	Detector bias heater on at level 2
	08:24:46	504.77	881	Detector bias heater off
	08:25:18	505.30	884	Detector bias heater on at level 3
	08:27:58	507.97	881	Detector bias heater off
	09:27:10	567.17	821	Elevate to internal source (stow)
	09:43:10	583.17	862	WFOV BB heater on at temp. 1
	09:59:10	599.17	872	MFOV BB heater on at temp. 1
	11:04:14	664.23	823	Elevate to nadir (Earth)
End preinternal calibration sequence.			

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
Begin internal calibration sequence.				
07/04/90	11:05:50	665.83	881	Detector bias heater off
	11:06:22	666.37	852	Solar port heaters off
	11:06:54	666.90	821	Elevate to internal source (stow)
	11:07:26	667.43	851	Solar port heaters on
	11:09:34	669.57	882	Detector bias heater on at level 1
	11:13:18	673.30	892	SWICS on at level 3
	11:16:30	676.50	881	Detector bias heater off
	11:20:14	680.23	862	WFOV BB heater on at temp. 1
	11:20:46	680.77	872	MFOV BB heater on at temp. 1
	11:21:50	681.83	891	SWICS off
	11:35:10	695.17	883	Detector bias heater on at level 2
	11:38:54	698.90	893	SWICS on at level 2
	11:42:06	702.10	881	Detector bias heater off
	11:45:50	705.83	863	WFOV BB heater on at temp. 2
	11:46:22	706.37	873	MFOV BB heater on at temp. 2
	11:47:26	707.43	891	SWICS off
	12:00:46	720.77	884	Detector bias heater on at level 3
	12:04:30	724.50	894	SWICS on at level 1
	12:06:38	726.63	881	Detector bias heater off
	12:09:18	729.30	852	Solar port heaters off
	12:10:22	730.37	861	WFOV BB heater off
	12:10:54	730.90	871	MFOV BB heater off
	12:11:26	731.43	851	Solar port heaters on
	12:11:58	731.97	891	SWICS off
End internal calibration sequence.				

Table 6. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
07/04/90	12:18:54	738.90	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
07/04/90	12:26:22	746.37	822	Elevate to solar ports (Sun)
	12:26:54	746.90	814	Azimuth to position A
	12:27:26	747.43	883	Detector bias heater on at level 2
	12:37:34	757.57	831	SMA shutter cycle on
	13:18:38	798.63	832	SMA shutter cycle off
	13:19:10	799.17	881	Detector bias heater off
	13:19:42	799.70	882	Detector bias heater on at level 1
	13:22:22	802.37	881	Detector bias heater off
	13:22:54	802.90	883	Detector bias heater on at level 2
	13:25:34	805.57	881	Detector bias heater off
	13:26:06	806.10	884	Detector bias heater on at level 3
	13:28:46	808.77	881	Detector bias heater off
	13:29:18	809.30	852	Solar port heaters off
	13:45:18	825.30	851	Solar port heaters on
	13:45:50	825.83	821	Elevate to internal source (stow)
	14:01:50	841.83	811	Azimuth to 0°
End solar calibration sequence.				
07/04/90	14:27:26	867.43	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
07/04/90	14:46:06	886.10	882	Detector bias heater on at level 1
	14:48:46	888.77	881	Detector bias heater off
	14:49:18	889.30	883	Detector bias heater on at level 2
	14:51:58	891.97	881	Detector bias heater off

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
07/04/90	14:52:30	892.50	884	Detector bias heater on at level 3
	14:55:10	895.17	881	Detector bias heater off
End postcalibration sequence. Begin azimuth angle load commands for solar calibration.				
07/17/90	17:46:22	1066.37	419	Address azimuth position A
	17:46:54	1066.90	203	Data command, high byte
	17:47:58	1067.97	117	Data command, low byte
End azimuth angle load commands (A = 59.33°). Begin preinternal calibration sequence.				
07/18/90	08:55:42	535.70	882	Detector bias heater on at level 1
	08:58:22	538.37	881	Detector bias heater off
	08:58:54	538.90	883	Detector bias heater on at level 2
	09:01:34	541.57	881	Detector bias heater off
	09:02:06	542.10	884	Detector bias heater on at level 3
	09:04:46	544.77	881	Detector bias heater off
	10:03:58	603.97	821	Elevate to internal source (stow)
	10:19:58	619.97	862	WFOV BB heater on at temp. 1
	10:35:58	635.97	872	MFOV BB heater on at temp. 1
	11:41:02	701.03	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
07/18/90	11:42:38	702.63	881	Detector bias heater off
	11:43:10	703.17	852	Solar port heaters off
	11:43:42	703.70	821	Elevate to internal source (stow)
	11:44:14	704.23	851	Solar port heaters on
	11:46:22	706.37	882	Detector bias heater on at level 1
	11:50:06	710.10	892	SWICS on at level 3

Table 6. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
07/18/90	11:53:18	713.30	881	Detector bias heater off
	11:57:02	717.03	862	WFOV BB heater on at temp. 1
	11:57:34	717.57	872	MFOV BB heater on at temp. 1
	11:58:38	718.63	891	SWICS off
	12:11:58	731.97	883	Detector bias heater on at level 2
	12:15:42	735.70	893	SWICS on at level 2
	12:18:54	738.90	881	Detector bias heater off
	12:22:38	742.63	863	WFOV BB heater on at temp. 2
	12:23:10	743.17	873	MFOV BB heater on at temp. 2
	12:24:14	744.23	891	SWICS off
	12:37:34	757.57	884	Detector bias heater on at level 3
	12:41:18	761.30	894	SWICS on at level 1
	12:43:26	763.43	881	Detector bias heater off
	12:46:06	766.10	852	Solar port heaters off
	12:47:10	767.17	861	WFOV BB heater off
	12:47:42	767.70	871	MFOV BB heater off
	12:48:14	768.23	851	Solar port heaters on
	12:48:46	768.77	891	SWICS off
End internal calibration sequence.				
07/18/90	12:55:42	775.70	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
07/18/90	13:03:10	783.17	822	Elevate to solar ports (Sun)
	13:03:42	783.70	814	Azimuth to position A
	13:04:14	784.23	883	Detector bias heater on at level 2
	13:14:22	794.37	831	SMA shutter cycle on
	13:55:26	835.43	832	SMA shutter cycle off

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
07/18/90	13:55:58	835.97	881	Detector bias heater off
	13:56:30	836.50	882	Detector bias heater on at level 1
	13:59:10	839.17	881	Detector bias heater off
	13:59:42	839.70	883	Detector bias heater on at level 2
	14:02:22	842.37	881	Detector bias heater off
	14:02:54	842.90	884	Detector bias heater on at level 3
	14:05:34	845.57	881	Detector bias heater off
	14:06:06	846.10	852	Solar port heaters off
	14:22:06	862.10	851	Solar port heaters on
	14:22:38	862.63	821	Elevate to internal source (stow)
	14:38:38	878.63	811	Azimuth to 0°
End solar calibration sequence.				
07/18/90	15:04:14	904.23	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
07/18/90	15:22:54	922.90	882	Detector bias heater on at level 1
	15:25:34	925.57	881	Detector bias heater off
	15:26:06	926.10	883	Detector bias heater on at level 2
	15:28:46	928.77	881	Detector bias heater off
	15:29:18	929.30	884	Detector bias heater on at level 3
	15:31:58	931.97	881	Detector bias heater off
End postcalibration sequence.				
07/26/90	19:15:09			Yaw maneuver to X-axis negative
Begin azimuth angle load commands for solar calibration.				
07/31/90	13:10:38	790.63	419	Address azimuth position A
	13:11:10	791.17	203	Data command, high byte

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
07/31/90	13:12:14	792.23	1E0	Data command, low byte
End azimuth angle load commands (A = 74.40°). Begin preinternal calibration sequence.				
08/01/90	07:59:10	479.17	882	Detector bias heater on at level 1
	08:01:50	481.83	881	Detector bias heater off
	08:02:22	482.37	883	Detector bias heater on at level 2
	08:05:02	485.03	881	Detector bias heater off
	08:05:34	485.57	884	Detector bias heater on at level 3
	08:08:14	488.23	881	Detector bias heater off
	09:37:50	577.83	821	Elevate to internal source (stow)
	09:53:50	593.83	862	WFOV BB heater on at temp. 1
	10:09:50	609.83	872	MFOV BB heater on at temp. 1
	11:14:54	674.90	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
08/01/90	11:16:30	676.50	881	Detector bias heater off
	11:17:02	677.03	852	Solar port heaters off
	11:17:34	677.57	821	Elevate to internal source (stow)
	11:18:06	678.10	851	Solar port heaters on
	11:20:14	680.23	882	Detector bias heater on at level 1
	11:23:58	683.97	892	SWICS on at level 3
	11:27:10	687.17	881	Detector bias heater off
	11:30:54	690.90	862	WFOV BB heater on at temp. 1
	11:31:26	691.43	872	MFOV BB heater on at temp. 1
	11:32:30	692.50	891	SWICS off
	11:45:50	705.83	883	Detector bias heater on at level 2
	11:49:34	709.57	893	SWICS on at level 2

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
08/01/90	11:52:46	712.77	881	Detector bias heater off
	11:56:30	716.50	863	WFOV BB heater on at temp. 2
	11:57:02	717.03	873	MFOV BB heater on at temp. 2
	11:58:06	718.10	891	SWICS off
	12:11:26	731.43	884	Detector bias heater on at level 3
	12:15:10	735.17	894	SWICS on at level 1
	12:17:18	737.30	881	Detector bias heater off
	12:19:58	739.97	852	Solar port heaters off
	12:21:02	741.03	861	WFOV BB heater off
	12:21:34	741.57	871	MFOV BB heater off
	12:22:06	742.10	851	Solar port heaters on
	12:22:38	742.63	891	SWICS off
End internal calibration sequence.				
08/01/90	12:29:34	749.57	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
08/01/90	12:37:02	757.03	822	Elevate to solar ports (Sun)
	12:37:34	757.57	814	Azimuth to position A
	12:38:06	758.10	883	Detector bias heater on at level 2
	12:48:14	768.23	831	SMA shutter cycle on
	13:29:18	809.30	832	SMA shutter cycle off
	13:29:50	809.83	881	Detector bias heater off
	13:30:22	810.37	882	Detector bias heater on at level 1
	13:33:02	813.03	881	Detector bias heater off
	13:33:34	813.57	883	Detector bias heater on at level 2
	13:36:14	816.23	881	Detector bias heater off
	13:36:46	816.77	884	Detector bias heater on at level 3

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
08/01/90	13:39:26	819.43	881	Detector bias heater off
	13:39:58	819.97	852	Solar port heaters off
	13:55:58	835.97	851	Solar port heaters on
	13:56:30	836.50	821	Elevate to internal source (stow)
	14:12:30	852.50	811	Azimuth to 0°
End solar calibration sequence.				
08/01/90	14:38:06	878.10	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
08/01/90	16:02:22	962.37	882	Detector bias heater on at level 1
	16:05:02	965.03	881	Detector bias heater off
	16:05:34	965.57	883	Detector bias heater on at level 2
	16:08:14	968.23	881	Detector bias heater off
	16:08:46	968.77	884	Detector bias heater on at level 3
	16:11:26	971.43	881	Detector bias heater off
End postcalibration sequence. Begin azimuth angle load commands for solar calibration.				
08/10/90	14:46:06	886.10	419	Address azimuth position A
	14:46:38	886.63	201	Data command, high byte
	14:47:42	887.70	199	Data command, low byte
End azimuth angle load commands (A = 30.68°). Begin preinternal calibration sequence.				
08/12/90	01:32:30	92.50	882	Detector bias heater on at level 1
	01:35:10	95.17	881	Detector bias heater off
	01:35:42	95.70	883	Detector bias heater on at level 2
	01:38:22	98.37	881	Detector bias heater off
	01:38:54	98.90	884	Detector bias heater on at level 3

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
08/12/90	01:41:34	101.57	881	Detector bias heater off
	03:11:10	191.17	821	Elevate to internal source (stow)
	03:27:10	207.17	862	WFOV BB heater on at temp. 1
	03:43:10	223.17	872	MFOV BB heater on at temp. 1
	04:48:14	288.23	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
08/12/90	04:49:50	289.83	881	Detector bias heater off
	04:50:22	290.37	852	Solar port heaters off
	04:50:54	290.90	821	Elevate to internal source (stow)
	04:51:26	291.43	851	Solar port heaters on
	04:53:34	293.57	882	Detector bias heater on at level 1
	04:57:18	297.30	892	SWICS on at level 3
	05:00:30	300.50	881	Detector bias heater off
	05:04:14	304.23	862	WFOV BB heater on at temp. 1
	05:04:46	304.77	872	MFOV BB heater on at temp. 1
	05:05:50	305.83	891	SWICS off
	05:19:10	319.17	883	Detector bias heater on at level 2
	05:22:54	322.90	893	SWICS on at level 2
	05:26:06	326.10	881	Detector bias heater off
	05:29:50	329.83	863	WFOV BB heater on at temp. 2
	05:30:22	330.37	873	MFOV BB heater on at temp. 2
	05:31:26	331.43	891	SWICS off
	05:44:46	344.77	884	Detector bias heater on at level 3
	05:48:30	348.50	894	SWICS on at level 1
	05:50:38	350.63	881	Detector bias heater off

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
08/12/90	05:53:18	353.30	852	Solar port heaters off
	05:54:22	354.37	861	WFOV BB heater off
	05:54:54	354.90	871	MFOV BB heater off
	05:55:26	355.43	851	Solar port heaters on
	05:55:58	355.97	891	SWICS off
End internal calibration sequence.				
08/12/90	06:02:54	362.90	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
08/12/90	06:10:22	370.37	822	Elevate to solar ports (Sun)
	06:10:54	370.90	814	Azimuth to position A
	06:11:26	371.43	883	Detector bias heater on at level 2
	06:21:34	381.57	831	SMA shutter cycle on
	07:02:38	422.63	832	SMA shutter cycle off
	07:03:10	423.17	881	Detector bias heater off
	07:03:42	423.70	882	Detector bias heater on at level 1
	07:06:22	426.37	881	Detector bias heater off
	07:06:54	426.90	883	Detector bias heater on at level 2
	07:09:34	429.57	881	Detector bias heater off
	07:10:06	430.10	884	Detector bias heater on at level 3
	07:12:46	432.77	881	Detector bias heater off
	07:13:18	433.30	852	Solar port heaters off
	07:29:18	449.30	851	Solar port heaters on
	07:29:50	449.83	821	Elevate to internal source (stow)
	07:45:50	465.83	811	Azimuth to 0°
End solar calibration sequence.				
08/12/90	08:11:26	491.43	823	Elevate to nadir (Earth)

Table 6. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
End solar calibration sequence. Begin postcalibration sequence.			
08/12/90	09:35:42	575.70	882	Detector bias heater on at level 1
	09:38:22	578.37	881	Detector bias heater off
	09:38:54	578.90	883	Detector bias heater on at level 2
	09:41:34	581.57	881	Detector bias heater off
	09:42:06	582.10	884	Detector bias heater on at level 3
	09:44:46	584.77	881	Detector bias heater off
End postcalibration sequence. Begin azimuth angle load commands for solar calibration.			
08/23/90	17:03:42	1023.70	419	Address azimuth position A
	17:04:14	1024.23	201	Data command, high byte
	17:05:18	1025.30	1AF	Data command, low byte
End azimuth angle load commands (A = 32.33°). Begin preinternal calibration sequence.			
08/24/90	02:05:02	125.03	882	Detector bias heater on at level 1
	02:07:42	127.70	881	Detector bias heater off
	02:08:14	128.23	883	Detector bias heater on at level 2
	02:10:54	130.90	881	Detector bias heater off
	02:11:26	131.43	884	Detector bias heater on at level 3
	02:14:06	134.10	881	Detector bias heater off
	03:44:14	224.23	821	Elevate to internal source (stow)
	04:00:14	240.23	862	WFOV BB heater on at temp. 1
	04:16:14	256.23	872	MFOV BB heater on at temp. 1
	05:21:18	321.30	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.			
08/24/90	05:22:54	322.90	881	Detector bias heater off

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
08/24/90	05:23:26	323.43	852	Solar port heaters off
	05:23:58	323.97	821	Elevate to internal source (stow)
	05:24:30	324.50	851	Solar port heaters on
	05:26:38	326.63	882	Detector bias heater on at level 1
	05:30:22	330.37	892	SWICS on at level 3
	05:33:34	333.57	881	Detector bias heater off
	05:37:18	337.30	862	WFOV BB heater on at temp. 1
	05:37:50	337.83	872	MFOV BB heater on at temp. 1
	05:38:54	338.90	891	SWICS off
	05:52:14	352.23	883	Detector bias heater on at level 2
	05:55:58	355.97	893	SWICS on at level 2
	05:59:10	359.17	881	Detector bias heater off
	06:02:54	362.90	863	WFOV BB heater on at temp. 2
	06:03:26	363.43	873	MFOV BB heater on at temp. 2
	06:04:30	364.50	891	SWICS off
	06:17:50	377.83	884	Detector bias heater on at level 3
	06:21:34	381.57	894	SWICS on at level 1
	06:23:42	383.70	881	Detector bias heater off
	06:26:22	386.37	852	Solar port heaters off
	06:27:26	387.43	861	WFOV BB heater off
	06:27:58	387.97	871	MFOV BB heater off
	06:28:30	388.50	851	Solar port heaters on
	06:29:02	389.03	891	SWICS off
End internal calibration sequence.				
08/24/90	06:35:58	395.97	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				

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Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
08/24/90	06:43:26	403.43	822	Elevate to solar ports (Sun)
	06:43:58	403.97	814	Azimuth to position A
	06:44:30	404.50	883	Detector bias heater on at level 2
	06:54:38	414.63	831	SMA shutter cycle on
	07:35:42	455.70	832	SMA shutter cycle off
	07:36:14	456.23	881	Detector bias heater off
	07:36:46	456.77	882	Detector bias heater on at level 1
	07:39:26	459.43	881	Detector bias heater off
	07:39:58	459.97	883	Detector bias heater on at level 2
	07:42:38	462.63	881	Detector bias heater off
	07:43:10	463.17	884	Detector bias heater on at level 3
	07:45:50	465.83	881	Detector bias heater off
	07:46:22	466.37	852	Solar port heaters off
	08:02:22	482.37	851	Solar port heaters on
	08:02:54	482.90	821	Elevate to internal source (stow)
	08:18:54	498.90	811	Azimuth to 0°
End solar calibration sequence.				
08/24/90	08:44:30	524.50	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
08/24/90	10:08:46	608.77	882	Detector bias heater on at level 1
	10:11:26	611.43	881	Detector bias heater off
	10:11:58	611.97	883	Detector bias heater on at level 2
	10:14:38	614.63	881	Detector bias heater off
	10:15:10	615.17	884	Detector bias heater on at level 3
	10:17:50	617.83	881	Detector bias heater off

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
End postcalibration sequence. Begin azimuth angle load commands for solar calibration.				
08/28/90	09:31:58	571.97	419	Address azimuth position A
	09:32:30	572.50	202	Data command, high byte
	09:33:02	573.03	1D4	Data command, low byte
End azimuth angle load commands (A = 54.30°). Begin preinternal calibration sequence.				
08/29/90	07:42:06	462.10	882	Detector bias heater on at level 1
	07:44:46	464.77	881	Detector bias heater off
	07:45:18	465.30	883	Detector bias heater on at level 2
	07:47:58	467.97	881	Detector bias heater off
	07:48:30	468.50	884	Detector bias heater on at level 3
	07:51:10	471.17	881	Detector bias heater off
	09:21:18	561.30	821	Elevate to internal source (stow)
	09:37:18	577.30	862	WFOV BB heater on at temp. 1
	09:53:18	593.30	872	MFOV BB heater on at temp. 1
	10:58:22	658.37	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
08/29/90	10:59:58	659.97	881	Detector bias heater off
	11:00:30	660.50	852	Solar port heaters off
	11:01:02	661.03	821	Elevate to internal source (stow)
	11:01:34	661.57	851	Solar port heaters on
	11:03:42	663.70	882	Detector bias heater on at level 1
	11:07:26	667.43	892	SWICS on at level 3
	11:10:38	670.63	881	Detector bias heater off
	11:14:22	674.37	862	WFOV BB heater on at temp. 1

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
08/29/90	11:14:54	674.90	872	MFOV BB heater on at temp. 1
	11:15:58	675.97	891	SWICS off
	11:29:18	689.30	883	Detector bias heater on at level 2
	11:33:02	693.03	893	SWICS on at level 2
	11:36:14	696.23	881	Detector bias heater off
	11:39:58	699.97	863	WFOV BB heater on at temp. 2
	11:40:30	700.50	873	MFOV BB heater on at temp. 2
	11:41:34	701.57	891	SWICS off
	11:54:54	714.90	884	Detector bias heater on at level 3
	11:58:38	718.63	894	SWICS on at level 1
	12:00:46	720.77	881	Detector bias heater off
	12:03:26	723.43	852	Solar port heaters off
	12:04:30	724.50	861	WFOV BB heater off
	12:05:02	725.03	871	MFOV BB heater off
	12:05:34	725.57	851	Solar port heaters on
	12:06:06	726.10	891	SWICS off
End internal calibration sequence.				
08/29/90	12:13:02	733.03	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
08/29/90	12:20:30	740.50	822	Elevate to solar ports (Sun)
	12:21:02	741.03	814	Azimuth to position A
	12:21:34	741.57	883	Detector bias heater on at level 2
	12:31:42	751.70	831	SMA shutter cycle on
	13:12:46	792.77	832	SMA shutter cycle off
	13:13:18	793.30	881	Detector bias heater off
	13:13:50	793.83	882	Detector bias heater on at level 1

Table 6. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
08/29/90	13:16:30	796.50	881	Detector bias heater off
	13:17:02	797.03	883	Detector bias heater on at level 2
	13:19:42	799.70	881	Detector bias heater off
	13:20:14	800.23	884	Detector bias heater on at level 3
	13:22:54	802.90	881	Detector bias heater off
	13:23:26	803.43	852	Solar port heaters off
	13:39:26	819.43	851	Solar port heaters on
	13:39:58	819.97	821	Elevate to internal source (stow)
	13:55:58	835.97	811	Azimuth to 0°
End solar calibration sequence.				
08/29/90	14:21:34	861.57	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
08/29/90	15:45:50	945.83	882	Detector bias heater on at level 1
	15:48:30	948.50	881	Detector bias heater off
	15:49:02	949.03	883	Detector bias heater on at level 2
	15:51:42	951.70	881	Detector bias heater off
	15:52:14	952.23	884	Detector bias heater on at level 3
	15:54:54	954.90	881	Detector bias heater off
End postcalibration sequence.				
09/05/90	19:16:13			Yaw maneuver to X-axis positive
Begin azimuth angle load commands for solar calibration.				
09/11/90	11:37:50	697.83	419	Address azimuth position A
	11:38:22	698.37	203	Data command, high byte
	11:39:26	699.43	165	Data command, low byte
End azimuth angle load commands (A = 65.18°).				

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
Begin preinternal calibration sequence.				
09/12/90	07:56:30	476.50	882	Detector bias heater on at level 1
	07:59:10	479.17	881	Detector bias heater off
	07:59:42	479.70	883	Detector bias heater on at level 2
	08:02:22	482.37	881	Detector bias heater off
	08:02:54	482.90	884	Detector bias heater on at level 3
	08:05:34	485.57	881	Detector bias heater off
	09:04:46	544.77	821	Elevate to internal source (stow)
	09:20:46	560.77	862	WFOV BB heater on at temp. 1
	09:36:46	576.77	872	MFOV BB heater on at temp. 1
	10:41:50	641.83	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
09/12/90	10:43:26	643.43	881	Detector bias heater off
	10:43:58	643.97	852	Solar port heaters off
	10:44:30	644.50	821	Elevate to internal source (stow)
	10:45:02	645.03	851	Solar port heaters on
	10:47:10	647.17	882	Detector bias heater on at level 1
	10:50:54	650.90	892	SWICS on at level 3
	10:54:06	654.10	881	Detector bias heater off
	10:57:50	657.83	862	WFOV BB heater on at temp. 1
	10:58:22	658.37	872	MFOV BB heater on at temp. 1
	10:59:26	659.43	891	SWICS off
	11:12:46	672.77	883	Detector bias heater on at level 2
	11:16:30	676.50	893	SWICS on at level 2
	11:19:42	679.70	881	Detector bias heater off

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
09/12/90	11:23:26	683.43	863	WFOV BB heater on at temp. 2
	11:23:58	683.97	873	MFOV BB heater on at temp. 2
	11:25:02	685.03	891	SWICS off
	11:38:22	698.37	884	Detector bias heater on at level 3
	11:42:06	702.10	894	SWICS on at level 1
	11:44:14	704.23	881	Detector bias heater off
	11:46:54	706.90	852	Solar port heaters off
	11:47:58	707.97	861	WFOV BB heater off
	11:48:30	708.50	871	MFOV BB heater off
	11:49:02	709.03	851	Solar port heaters on
	11:49:34	709.57	891	SWICS off
End internal calibration sequence.				
09/12/90	11:56:30	716.50	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
09/12/90	12:03:58	723.97	822	Elevate to solar ports (Sun)
	12:04:30	724.50	814	Azimuth to position A
	12:05:02	725.03	883	Detector bias heater on at level 2
	12:15:10	735.17	831	SMA shutter cycle on
	12:56:14	776.23	832	SMA shutter cycle off
	12:56:46	776.77	881	Detector bias heater off
	12:57:18	777.30	882	Detector bias heater on at level 1
	12:59:58	779.97	881	Detector bias heater off
	13:00:30	780.50	883	Detector bias heater on at level 2
	13:03:10	783.17	881	Detector bias heater off
	13:03:42	783.70	884	Detector bias heater on at level 3
	13:06:22	786.37	881	Detector bias heater off

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
09/12/90	13:06:54	786.90	852	Solar port heaters off
	13:22:54	802.90	851	Solar port heaters on
	13:23:26	803.43	821	Elevate to internal source (stow)
	13:39:26	819.43	811	Azimuth to 0°
End solar calibration sequence.				
09/12/90	14:05:02	845.03	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
09/12/90	14:23:42	863.70	882	Detector bias heater on at level 1
	14:26:22	866.37	881	Detector bias heater off
	14:26:54	866.90	883	Detector bias heater on at level 2
	14:29:34	869.57	881	Detector bias heater off
	14:30:06	870.10	884	Detector bias heater on at level 3
	14:32:46	872.77	881	Detector bias heater off
End postcalibration sequence. Begin azimuth angle load commands for solar calibration.				
09/25/90	13:53:50	833.83	419	Address azimuth position A
	13:54:22	834.37	201	Data command, high byte
	13:55:58	835.97	1A1	Data command, low byte
End azimuth angle load commands (A = 31.28°). Begin preinternal calibration sequence.				
09/26/90	08:36:30	516.50	882	Detector bias heater on at level 1
	08:39:10	519.17	881	Detector bias heater off
	08:39:42	519.70	883	Detector bias heater on at level 2
	08:42:22	522.37	881	Detector bias heater off
	08:42:54	522.90	884	Detector bias heater on at level 3
	08:45:34	525.57	881	Detector bias heater off

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
09/26/90	09:44:46	584.77	821	Elevate to internal source (stow)
	10:00:46	600.77	862	WFOV BB heater on at temp. 1
	10:16:46	616.77	872	MFOV BB heater on at temp. 1
	11:21:50	681.83	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
09/26/90	11:23:26	683.43	881	Detector bias heater off
	11:23:58	683.97	852	Solar port heaters off
	11:24:30	684.50	821	Elevate to internal source (stow)
	11:25:02	685.03	851	Solar port heaters on
	11:27:10	687.17	882	Detector bias heater on at level 1
	11:30:54	690.90	892	SWICS on at level 3
	11:34:06	694.10	881	Detector bias heater off
	11:37:50	697.83	862	WFOV BB heater on at temp. 1
	11:38:22	698.37	872	MFOV BB heater on at temp. 1
	11:39:26	699.43	891	SWICS off
	11:52:46	712.77	883	Detector bias heater on at level 2
	11:56:30	716.50	893	SWICS on at level 2
	11:59:42	719.70	881	Detector bias heater off
	12:03:26	723.43	863	WFOV BB heater on at temp. 2
	12:03:58	723.97	873	MFOV BB heater on at temp. 2
	12:05:02	725.03	891	SWICS off
	12:18:22	738.37	884	Detector bias heater on at level 3
	12:22:06	742.10	894	SWICS on at level 1
	12:24:14	744.23	881	Detector bias heater off
	12:26:54	746.90	852	Solar port heaters off

Table 6. Continued

	Universal time		Hex command	Event description
Date	hr:min:sec	Minutes of day		
09/26/90	12:27:58	747.97	861	WFOV BB heater off
	12:28:30	748.50	871	MFOV BB heater off
	12:29:02	749.03	851	Solar port heaters on
	12:29:34	749.57	891	SWICS off
End internal calibration sequence.				
09/26/90	12:36:30	756.50	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
09/26/90	12:43:58	763.97	822	Elevate to solar ports (Sun)
	12:44:30	764.50	814	Azimuth to position A
	12:45:02	765.03	883	Detector bias heater on at level 2
	12:55:10	775.17	831	SMA shutter cycle on
	13:36:14	816.23	832	SMA shutter cycle off
	13:36:46	816.77	881	Detector bias heater off
	13:37:18	817.30	882	Detector bias heater on at level 1
	13:39:58	819.97	881	Detector bias heater off
	13:40:30	820.50	883	Detector bias heater on at level 2
	13:43:10	823.17	881	Detector bias heater off
	13:43:42	823.70	884	Detector bias heater on at level 3
	13:46:22	826.37	881	Detector bias heater off
	13:46:54	826.90	852	Solar port heaters off
	14:02:54	842.90	851	Solar port heaters on
	14:03:26	843.43	821	Elevate to internal source (stow)
	14:19:26	859.43	811	Azimuth to 0°
End solar calibration sequence.				
09/26/90	14:45:02	885.03	823	Elevate to nadir (Earth)
End solar calibration sequence.				

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
Begin postcalibration sequence.				
09/26/90	15:03:42	903.70	882	Detector bias heater on at level 1
	15:06:22	906.37	881	Detector bias heater off
	15:06:54	906.90	883	Detector bias heater on at level 2
	15:09:34	909.57	881	Detector bias heater off
	15:10:06	910.10	884	Detector bias heater on at level 3
	15:12:46	912.77	881	Detector bias heater off
End postcalibration sequence. Begin azimuth angle load commands for solar calibration.				
10/09/90	11:14:22	674.37	419	Address azimuth position A
	11:14:54	674.90	204	Data command, high byte
	11:15:58	675.97	101	Data command, low byte
End azimuth angle load commands (A = 76.88°). Begin preinternal calibration sequence.				
10/10/90	07:29:18	449.30	882	Detector bias heater on at level 1
	07:31:58	451.97	881	Detector bias heater off
	07:32:30	452.50	883	Detector bias heater on at level 2
	07:35:10	455.17	881	Detector bias heater off
	07:35:42	455.70	884	Detector bias heater on at level 3
	07:38:22	458.37	881	Detector bias heater off
	08:37:34	517.57	821	Elevate to internal source (stow)
	08:53:34	533.57	862	WFOV BB heater on at temp. 1
	09:09:34	549.57	872	MFOV BB heater on at temp. 1
	10:14:38	614.63	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
10/10/90	10:16:14	616.23	881	Detector bias heater off

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
10/10/90	10:16:46	616.77	852	Solar port heaters off
	10:17:18	617.30	821	Elevate to internal source (stow)
	10:17:50	617.83	851	Solar port heaters on
	10:19:58	619.97	882	Detector bias heater on at level 1
	10:23:42	623.70	892	SWICS on at level 3
	10:26:54	626.90	881	Detector bias heater off
	10:30:38	630.63	862	WFOV BB heater on at temp. 1
	10:31:10	631.17	872	MFOV BB heater on at temp. 1
	10:32:14	632.23	891	SWICS off
	10:45:34	645.57	883	Detector bias heater on at level 2
	10:49:18	649.30	893	SWICS on at level 2
	10:52:30	652.50	881	Detector bias heater off
	10:56:14	656.23	863	WFOV BB heater on at temp. 2
	10:56:46	656.77	873	MFOV BB heater on at temp. 2
	10:57:50	657.83	891	SWICS off
	11:11:10	671.17	884	Detector bias heater on at level 3
	11:14:54	674.90	894	SWICS on at level 1
	11:17:02	677.03	881	Detector bias heater off
	11:19:42	679.70	852	Solar port heaters off
	11:20:46	680.77	861	WFOV BB heater off
	11:21:18	681.30	871	MFOV BB heater off
	11:21:50	681.83	851	Solar port heaters on
	11:22:22	682.37	891	SWICS off
End internal calibration sequence.				
10/10/90	11:29:18	689.30	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				

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Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
10/10/90	11:36:46	696.77	822	Elevate to solar ports (Sun)
	11:37:18	697.30	814	Azimuth to position A
	11:37:50	697.83	883	Detector bias heater on at level 2
	11:47:58	707.97	831	SMA shutter cycle on
	12:29:02	749.03	832	SMA shutter cycle off
	12:29:34	749.57	881	Detector bias heater off
	12:30:06	750.10	882	Detector bias heater on at level 1
	12:32:46	752.77	881	Detector bias heater off
	12:33:18	753.30	883	Detector bias heater on at level 2
	12:35:58	755.97	881	Detector bias heater off
	12:36:30	756.50	884	Detector bias heater on at level 3
	12:39:10	759.17	881	Detector bias heater off
	12:39:42	759.70	852	Solar port heaters off
	12:55:42	775.70	851	Solar port heaters on
	12:56:14	776.23	821	Elevate to internal source (stow)
	13:12:14	792.23	811	Azimuth to 0°
End solar calibration sequence.				
10/10/90	13:37:50	817.83	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
10/10/90	13:56:30	836.50	882	Detector bias heater on at level 1
	13:59:10	839.17	881	Detector bias heater off
	13:59:42	839.70	883	Detector bias heater on at level 2
	14:02:22	842.37	881	Detector bias heater off
	14:02:54	842.90	884	Detector bias heater on at level 3
	14:05:34	845.57	881	Detector bias heater off

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
End postcalibration sequence.				
10/12/90	18:30:05			Yaw maneuver to X-axis negative
Begin azimuth angle load commands for solar calibration.				
10/23/90	10:01:50	601.83	419	Address azimuth position A
	10:02:54	602.90	202	Data command, high byte
	10:03:58	603.97	1C9	Data command, low byte
End azimuth angle load commands (A = 53.48°). Begin preinternal calibration sequence.				
10/24/90	06:29:34	389.57	882	Detector bias heater on at level 1
	06:32:14	392.23	881	Detector bias heater off
	06:32:46	392.77	883	Detector bias heater on at level 2
	06:35:26	395.43	881	Detector bias heater off
	06:35:58	395.97	884	Detector bias heater on at level 3
	06:38:38	398.63	881	Detector bias heater off
	08:08:14	488.23	821	Elevate to internal source (stow)
	08:24:14	504.23	862	WFOV BB heater on at temp. 1
	08:40:14	520.23	872	MFOV BB heater on at temp. 1
	09:45:18	585.30	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
10/24/90	09:46:54	586.90	881	Detector bias heater off
	09:47:26	587.43	852	Solar port heaters off
	09:47:58	587.97	821	Elevate to internal source (stow)
	09:48:30	588.50	851	Solar port heaters on
	09:50:38	590.63	882	Detector bias heater on at level 1
	09:54:22	594.37	892	SWICS on at level 3
	09:57:34	597.57	881	Detector bias heater off

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
10/24/90	10:01:18	601.30	862	WFOV BB heater on at temp. 1
	10:01:50	601.83	872	MFOV BB heater on at temp. 1
	10:02:54	602.90	891	SWICS off
	10:16:14	616.23	883	Detector bias heater on at level 2
	10:19:58	619.97	893	SWICS on at level 2
	10:23:10	623.17	881	Detector bias heater off
	10:26:54	626.90	863	WFOV BB heater on at temp. 2
	10:27:26	627.43	873	MFOV BB heater on at temp. 2
	10:28:30	628.50	891	SWICS off
	10:41:50	641.83	884	Detector bias heater on at level 3
	10:45:34	645.57	894	SWICS on at level 1
	10:47:42	647.70	881	Detector bias heater off
	10:50:22	650.37	852	Solar port heaters off
	10:51:26	651.43	861	WFOV BB heater off
	10:51:58	651.97	871	MFOV BB heater off
	10:52:30	652.50	851	Solar port heaters on
	10:53:02	653.03	891	SWICS off
End internal calibration sequence.				
10/24/90	10:59:58	659.97	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
10/24/90	11:07:26	667.43	822	Elevate to solar ports (Sun)
	11:07:58	667.97	814	Azimuth to position A
	11:08:30	668.50	883	Detector bias heater on at level 2
	11:18:38	678.63	831	SMA shutter cycle on
	11:59:42	719.70	832	SMA shutter cycle off
	12:00:14	720.23	881	Detector bias heater off

Table 6. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
10/24/90	12:00:46	720.77	882	Detector bias heater on at level 1
	12:03:26	723.43	881	Detector bias heater off
	12:03:58	723.97	883	Detector bias heater on at level 2
	12:06:38	726.63	881	Detector bias heater off
	12:07:10	727.17	884	Detector bias heater on at level 3
	12:09:50	729.83	881	Detector bias heater off
	12:10:22	730.37	852	Solar port heaters off
	12:26:22	746.37	851	Solar port heaters on
	12:26:54	746.90	821	Elevate to internal source (stow)
	12:42:54	762.90	811	Azimuth to 0°
End solar calibration sequence.				
10/24/90	13:08:30	788.50	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
10/24/90	14:32:46	872.77	882	Detector bias heater on at level 1
	14:35:26	875.43	881	Detector bias heater off
	14:35:58	875.97	883	Detector bias heater on at level 2
	14:38:38	878.63	881	Detector bias heater off
	14:39:10	879.17	884	Detector bias heater on at level 3
	14:41:50	881.83	881	Detector bias heater off
End postcalibration sequence. Begin azimuth angle load commands for solar calibration.				
11/06/90	13:58:06	838.10	419	Address azimuth position A
	13:58:38	838.63	203	Data command, high byte
	14:00:14	840.23	121	Data command, low byte
End azimuth angle load commands (A = 60.08°). Begin preinternal calibration sequence.				

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
11/07/90	08:40:14	520.23	882	Detector bias heater on at level 1
	08:42:54	522.90	881	Detector bias heater off
	08:43:26	523.43	883	Detector bias heater on at level 2
	08:46:06	526.10	881	Detector bias heater off
	08:46:38	526.63	884	Detector bias heater on at level 3
	08:49:18	529.30	881	Detector bias heater off
	10:19:26	619.43	821	Elevate to internal source (stow)
	10:35:26	635.43	862	WFOV BB heater on at temp. 1
	10:51:26	651.43	872	MFOV BB heater on at temp. 1
	11:56:30	716.50	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
11/07/90	11:58:06	718.10	881	Detector bias heater off
	11:58:38	718.63	852	Solar port heaters off
	11:59:10	719.17	821	Elevate to internal source (stow)
	11:59:42	719.70	851	Solar port heaters on
	12:01:50	721.83	882	Detector bias heater on at level 1
	12:05:34	725.57	892	SWICS on at level 3
	12:08:46	728.77	881	Detector bias heater off
	12:12:30	732.50	862	WFOV BB heater on at temp. 1
	12:13:02	733.03	872	MFOV BB heater on at temp. 1
	12:14:06	734.10	891	SWICS off
	12:27:26	747.43	883	Detector bias heater on at level 2
	12:31:10	751.17	893	SWICS on at level 2
	12:34:22	754.37	881	Detector bias heater off
	12:38:06	758.10	863	WFOV BB heater on at temp. 2

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
11/07/90	12:38:38	758.63	873	MFOV BB heater on at temp. 2
	12:39:42	759.70	891	SWICS off
	12:53:02	773.03	884	Detector bias heater on at level 3
	12:56:46	776.77	894	SWICS on at level 1
	12:58:54	778.90	881	Detector bias heater off
	13:01:34	781.57	852	Solar port heaters off
	13:02:38	782.63	861	WFOV BB heater off
	13:03:10	783.17	871	MFOV BB heater off
	13:03:42	783.70	851	Solar port heaters on
	13:04:14	784.23	891	SWICS off
End internal calibration sequence.				
11/07/90	13:11:10	791.17	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
11/07/90	13:18:38	798.63	822	Elevate to solar ports (Sun)
	13:19:10	799.17	814	Azimuth to position A
	13:19:42	799.70	883	Detector bias heater on at level 2
	13:29:50	809.83	831	SMA shutter cycle on
	14:10:54	850.90	832	SMA shutter cycle off
	14:11:26	851.43	881	Detector bias heater off
	14:11:58	851.97	882	Detector bias heater on at level 1
	14:14:38	854.63	881	Detector bias heater off
	14:15:10	855.17	883	Detector bias heater on at level 2
	14:17:50	857.83	881	Detector bias heater off
	14:18:22	858.37	884	Detector bias heater on at level 3
	14:21:02	861.03	881	Detector bias heater off
	14:21:34	861.57	852	Solar port heaters off

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Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
11/07/90	14:37:34	877.57	851	Solar port heaters on
	14:38:06	878.10	821	Elevate to internal source (stow)
	14:54:06	894.10	811	Azimuth to 0°
End solar calibration sequence.				
11/07/90	15:19:42	919.70	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
11/07/90	16:43:58	1003.97	882	Detector bias heater on at level 1
	16:46:38	1006.63	881	Detector bias heater off
	16:47:10	1007.17	883	Detector bias heater on at level 2
	16:49:50	1009.83	881	Detector bias heater off
	16:50:22	1010.37	884	Detector bias heater on at level 3
	16:53:02	1013.03	881	Detector bias heater off
End postcalibration sequence.				
11/14/90	18:36:13			Yaw maneuver to X-axis positive
Begin azimuth angle load commands for solar calibration.				
11/20/90	11:06:22	666.37	419	Address azimuth position A
	11:06:54	666.90	203	Data command, high byte
	11:07:58	667.97	15D	Data command, low byte
End azimuth angle load commands (A = 64.58°). Begin preinternal calibration sequence.				
11/21/90	08:51:58	531.97	882	Detector bias heater on at level 1
	08:54:38	534.63	881	Detector bias heater off
	08:55:10	535.17	883	Detector bias heater on at level 2
	08:57:50	537.83	881	Detector bias heater off
	08:58:22	538.37	884	Detector bias heater on at level 3
	09:01:02	541.03	881	Detector bias heater off

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
11/21/90	10:00:14	600.23	821	Elevate to internal source (stow)
	10:16:14	616.23	862	WFOV BB heater on at temp. 1
	10:32:14	632.23	872	MFOV BB heater on at temp. 1
	11:37:18	697.30	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
11/21/90	11:38:54	698.90	881	Detector bias heater off
	11:39:26	699.43	852	Solar port heaters off
	11:39:58	699.97	821	Elevate to internal source (stow)
	11:40:30	700.50	851	Solar port heaters on
	11:42:38	702.63	882	Detector bias heater on at level 1
	11:46:22	706.37	892	SWICS on at level 3
	11:49:34	709.57	881	Detector bias heater off
	11:53:18	713.30	862	WFOV BB heater on at temp. 1
	11:53:50	713.83	872	MFOV BB heater on at temp. 1
	11:54:54	714.90	891	SWICS off
	12:08:14	728.23	883	Detector bias heater on at level 2
	12:11:58	731.97	893	SWICS on at level 2
	12:15:10	735.17	881	Detector bias heater off
	12:18:54	738.90	863	WFOV BB heater on at temp. 2
	12:19:26	739.43	873	MFOV BB heater on at temp. 2
	12:20:30	740.50	891	SWICS off
	12:33:50	753.83	884	Detector bias heater on at level 3
	12:37:34	757.57	894	SWICS on at level 1
	12:39:42	759.70	881	Detector bias heater off
	12:42:22	762.37	852	Solar port heaters off

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
11/21/90	12:43:26	763.43	861	WFOV BB heater off
	12:43:58	763.97	871	MFOV BB heater off
	12:44:30	764.50	851	Solar port heaters on
	12:45:02	765.03	891	SWICS off
End internal calibration sequence.				
11/21/90	12:51:58	771.97	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
11/21/90	12:59:26	779.43	822	Elevate to solar ports (Sun)
	12:59:58	779.97	814	Azimuth to position A
	13:00:30	780.50	883	Detector bias heater on at level 2
	13:10:38	790.63	831	SMA shutter cycle on
	13:51:42	831.70	832	SMA shutter cycle off
	13:52:14	832.23	881	Detector bias heater off
	13:52:46	832.77	882	Detector bias heater on at level 1
	13:55:26	835.43	881	Detector bias heater off
	13:55:58	835.97	883	Detector bias heater on at level 2
	13:58:38	838.63	881	Detector bias heater off
	13:59:10	839.17	884	Detector bias heater on at level 3
	14:01:50	841.83	881	Detector bias heater off
	14:02:22	842.37	852	Solar port heaters off
	14:18:22	858.37	851	Solar port heaters on
	14:18:54	858.90	821	Elevate to internal source (stow)
	14:34:54	874.90	811	Azimuth to 0°
End solar calibration sequence.				
11/21/90	15:00:30	900.50	823	Elevate to nadir (Earth)
End solar calibration sequence.				

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
Begin postcalibration sequence.				
11/21/90	15:19:10	919.17	882	Detector bias heater on at level 1
	15:21:50	921.83	881	Detector bias heater off
	15:22:22	922.37	883	Detector bias heater on at level 2
	15:25:02	925.03	881	Detector bias heater off
	15:25:34	925.57	884	Detector bias heater on at level 3
	15:28:14	928.23	881	Detector bias heater off
End postcalibration sequence. Begin azimuth angle load commands for solar calibration.				
11/27/90	13:41:02	821.03	419	Address azimuth position A
	13:41:34	821.57	201	Data command, high byte
	13:42:38	822.63	1C9	Data command, low byte
End azimuth angle load commands (A = 34.28°). Begin preinternal calibration sequence.				
11/28/90	03:26:38	206.63	882	Detector bias heater on at level 1
	03:29:18	209.30	881	Detector bias heater off
	03:29:50	209.83	883	Detector bias heater on at level 2
	03:32:30	212.50	881	Detector bias heater off
	03:33:02	213.03	884	Detector bias heater on at level 3
	03:35:42	215.70	881	Detector bias heater off
	04:34:54	274.90	821	Elevate to internal source (stow)
	04:50:54	290.90	862	WFOV BB heater on at temp. 1
	05:06:54	306.90	872	MFOV BB heater on at temp. 1
	06:11:58	371.97	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
11/28/90	06:13:34	373.57	881	Detector bias heater off

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Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
11/28/90	06:14:06	374.10	852	Solar port heaters off
	06:14:38	374.63	821	Elevate to internal source (stow)
	06:15:10	375.17	851	Solar port heaters on
	06:17:18	377.30	882	Detector bias heater on at level 1
	06:21:02	381.03	892	SWICS on at level 3
	06:24:14	384.23	881	Detector bias heater off
	06:27:58	387.97	862	WFOV BB heater on at temp. 1
	06:28:30	388.50	872	MFOV BB heater on at temp. 1
	06:29:34	389.57	891	SWICS off
	06:42:54	402.90	883	Detector bias heater on at level 2
	06:46:38	406.63	893	SWICS on at level 2
	06:49:50	409.83	881	Detector bias heater off
	06:53:34	413.57	863	WFOV BB heater on at temp. 2
	06:54:06	414.10	873	MFOV BB heater on at temp. 2
	06:55:10	415.17	891	SWICS off
	07:08:30	428.50	884	Detector bias heater on at level 3
	07:12:14	432.23	894	SWICS on at level 1
	07:14:22	434.37	881	Detector bias heater off
	07:17:02	437.03	852	Solar port heaters off
	07:18:06	438.10	861	WFOV BB heater off
	07:18:38	438.63	871	MFOV BB heater off
	07:19:10	439.17	851	Solar port heaters on
	07:19:42	439.70	891	SWICS off
End internal calibration sequence.				
11/28/90	07:26:38	446.63	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
11/28/90	07:34:06	454.10	822	Elevate to solar ports (Sun)
	07:34:38	454.63	814	Azimuth to position A
	07:35:10	455.17	883	Detector bias heater on at level 2
	07:45:18	465.30	831	SMA shutter cycle on
	08:26:22	506.37	832	SMA shutter cycle off
	08:26:54	506.90	881	Detector bias heater off
	08:27:26	507.43	882	Detector bias heater on at level 1
	08:30:06	510.10	881	Detector bias heater off
	08:30:38	510.63	883	Detector bias heater on at level 2
	08:33:18	513.30	881	Detector bias heater off
	08:33:50	513.83	884	Detector bias heater on at level 3
	08:36:30	516.50	881	Detector bias heater off
	08:37:02	517.03	852	Solar port heaters off
	08:53:02	533.03	851	Solar port heaters on
	08:53:34	533.57	821	Elevate to internal source (stow)
	09:09:34	549.57	811	Azimuth to 0°
End solar calibration sequence.				
11/28/90	09:35:10	575.17	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
11/28/90	09:53:50	593.83	882	Detector bias heater on at level 1
	09:56:30	596.50	881	Detector bias heater off
	09:57:02	597.03	883	Detector bias heater on at level 2
	09:59:42	599.70	881	Detector bias heater off
	10:00:14	600.23	884	Detector bias heater on at level 3
	10:02:54	602.90	881	Detector bias heater off

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
End postcalibration sequence. Begin azimuth angle load commands for solar calibration.
12/12/90	19:34:06	1174.10	419	Address azimuth position A
	19:34:38	1174.63	201	Data command, high byte
	19:35:42	1175.70	1AD	Data command, low byte
End azimuth angle load commands (A = 32.18°). Begin preinternal calibration sequence.
12/13/90	02:52:30	172.50	882	Detector bias heater on at level 1
	02:55:10	175.17	881	Detector bias heater off
	02:55:42	175.70	883	Detector bias heater on at level 2
	02:58:22	178.37	881	Detector bias heater off
	02:58:54	178.90	884	Detector bias heater on at level 3
	03:01:34	181.57	881	Detector bias heater off
	04:00:46	240.77	821	Elevate to internal source (stow)
	04:16:46	256.77	862	WFOV BB heater on at temp. 1
	04:32:46	272.77	872	MFOV BB heater on at temp. 1
	05:37:50	337.83	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.
12/13/90	05:39:26	339.43	881	Detector bias heater off
	05:39:58	339.97	852	Solar port heaters off
	05:40:30	340.50	821	Elevate to internal source (stow)
	05:41:02	341.03	851	Solar port heaters on
	05:43:10	343.17	882	Detector bias heater on at level 1
	05:46:54	346.90	892	SWICS on at level 3
	05:50:06	350.10	881	Detector bias heater off
	05:53:50	353.83	862	WFOV BB heater on at temp. 1

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
12/13/90	05:54:22	354.37	872	MFOV BB heater on at temp. 1
	05:55:26	355.43	891	SWICS off
	06:08:46	368.77	883	Detector bias heater on at level 2
	06:12:30	372.50	893	SWICS on at level 2
	06:15:42	375.70	881	Detector bias heater off
	06:19:26	379.43	863	WFOV BB heater on at temp. 2
	06:19:58	379.97	873	MFOV BB heater on at temp. 2
	06:21:02	381.03	891	SWICS off
	06:34:22	394.37	884	Detector bias heater on at level 3
	06:38:06	398.10	894	SWICS on at level 1
	06:40:14	400.23	881	Detector bias heater off
	06:42:54	402.90	852	Solar port heaters off
	06:43:58	403.97	861	WFOV BB heater off
	06:44:30	404.50	871	MFOV BB heater off
	06:45:02	405.03	851	Solar port heaters on
	06:45:34	405.57	891	SWICS off
End internal calibration sequence.				
12/13/90	06:52:30	412.50	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
12/13/90	06:59:58	419.97	822	Elevate to solar ports (Sun)
	07:00:30	420.50	814	Azimuth to position A
	07:01:02	421.03	883	Detector bias heater on at level 2
	07:11:10	431.17	831	SMA shutter cycle on
	07:52:14	472.23	832	SMA shutter cycle off
	07:52:46	472.77	881	Detector bias heater off
	07:53:18	473.30	882	Detector bias heater on at level 1

Table 6. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
12/13/90	07:55:58	475.97	881	Detector bias heater off
	07:56:30	476.50	883	Detector bias heater on at level 2
	07:59:10	479.17	881	Detector bias heater off
	07:59:42	479.70	884	Detector bias heater on at level 3
	08:02:22	482.37	881	Detector bias heater off
	08:02:54	482.90	852	Solar port heaters off
	08:18:54	498.90	851	Solar port heaters on
	08:19:26	499.43	821	Elevate to internal source (stow)
	08:35:26	515.43	811	Azimuth to 0°
End solar calibration sequence.				
12/13/90	09:01:02	541.03	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
12/13/90	09:19:42	559.70	882	Detector bias heater on at level 1
	09:22:22	562.37	881	Detector bias heater off
	09:22:54	562.90	883	Detector bias heater on at level 2
	09:25:34	565.57	881	Detector bias heater off
	09:26:06	566.10	884	Detector bias heater on at level 3
	09:28:46	568.77	881	Detector bias heater off
End postcalibration sequence. Begin azimuth angle load commands for solar calibration.				
12/18/90	13:47:26	827.43	419	Address azimuth position A
	13:47:58	827.97	203	Data command, high byte
	13:49:34	829.57	11C	Data command, low byte
End azimuth angle load commands (A = 59.70°). Begin preinternal calibration sequence.				
12/19/90	08:30:06	510.10	882	Detector bias heater on at level 1

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
12/19/90	08:32:46	512.77	881	Detector bias heater off
	08:33:18	513.30	883	Detector bias heater on at level 2
	08:35:58	515.97	881	Detector bias heater off
	08:36:30	516.50	884	Detector bias heater on at level 3
	08:39:10	519.17	881	Detector bias heater off
	09:38:22	578.37	821	Elevate to internal source (stow)
	09:54:22	594.37	862	WFOV BB heater on at temp. 1
	10:10:22	610.37	872	MFOV BB heater on at temp. 1
	11:15:26	675.43	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
12/19/90	11:17:02	677.03	881	Detector bias heater off
	11:17:34	677.57	852	Solar port heaters off
	11:18:06	678.10	821	Elevate to internal source (stow)
	11:18:38	678.63	851	Solar port heaters on
	11:20:46	680.77	882	Detector bias heater on at level 1
	11:24:30	684.50	892	SWICS on at level 3
	11:27:42	687.70	881	Detector bias heater off
	11:31:26	691.43	862	WFOV BB heater on at temp. 1
	11:31:58	691.97	872	MFOV BB heater on at temp. 1
	11:33:02	693.03	891	SWICS off
	11:46:22	706.37	883	Detector bias heater on at level 2
	11:50:06	710.10	893	SWICS on at level 2
	11:53:18	713.30	881	Detector bias heater off
	11:57:02	717.03	863	WFOV BB heater on at temp. 2
	11:57:34	717.57	873	MFOV BB heater on at temp. 2

Table 6. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
12/19/90	11:58:38	718.63	891	SWICS off
	12:11:58	731.97	884	Detector bias heater on at level 3
	12:15:42	735.70	894	SWICS on at level 1
	12:17:50	737.83	881	Detector bias heater off
	12:20:30	740.50	852	Solar port heaters off
	12:21:34	741.57	861	WFOV BB heater off
	12:22:06	742.10	871	MFOV BB heater off
	12:22:38	742.63	851	Solar port heaters on
	12:23:10	743.17	891	SWICS off
End internal calibration sequence.				
12/19/90	12:30:06	750.10	823	Elevate to nadir (Earth)
Begin solar calibration sequence.				
12/19/90	12:37:34	757.57	822	Elevate to solar ports (Sun)
	12:38:06	758.10	814	Azimuth to position A
	12:38:38	758.63	883	Detector bias heater on at level 2
	12:48:46	768.77	831	SMA shutter cycle on
	13:29:50	809.83	832	SMA shutter cycle off
	13:30:22	810.37	881	Detector bias heater off
	13:30:54	810.90	882	Detector bias heater on at level 1
	13:33:34	813.57	881	Detector bias heater off
	13:34:06	814.10	883	Detector bias heater on at level 2
	13:36:46	816.77	881	Detector bias heater off
	13:37:18	817.30	884	Detector bias heater on at level 3
	13:39:58	819.97	881	Detector bias heater off
	13:40:30	820.50	852	Solar port heaters off
	13:56:30	836.50	851	Solar port heaters on

Table 6. Concluded

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
12/19/90	13:57:02	837.03	821	Elevate to internal source (stow)
	14:13:02	853.03	811	Azimuth to 0°
End solar calibration sequence.				
12/19/90	14:38:38	878.63	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
12/19/90	14:57:18	897.30	882	Detector bias heater on at level 1
	14:59:58	899.97	881	Detector bias heater off
	15:00:30	900.50	883	Detector bias heater on at level 2
	15:03:10	903.17	881	Detector bias heater off
	15:03:42	903.70	884	Detector bias heater on at level 3
	15:06:22	906.37	881	Detector bias heater off
End postcalibration sequence.				
12/26/90	20:12:13			Yaw maneuver to X-axis negative

Table 7. Operational Commands Executed by Nonscanner Instrument on NOAA 9 Spacecraft From
January 1990 Through December 1990

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
Begin preinternal calibration sequence.				
01/03/90	05:47:41	347.68	882	Detector bias heater on at level 1
	05:50:21	350.35	881	Detector bias heater off
	05:50:53	350.88	883	Detector bias heater on at level 2
	05:53:33	353.55	881	Detector bias heater off
	05:54:05	354.08	884	Detector bias heater on at level 3
	05:56:45	356.75	881	Detector bias heater off
	07:22:05	442.08	821	Elevate to internal source (stow)
	07:38:05	458.08	862	WFOV BB heater on at temp. 1
	07:54:05	474.08	872	MFOV BB heater on at temp. 1
	09:05:01	545.02	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
01/03/90	09:06:05	546.08	881	Detector bias heater off
	09:06:37	546.62	852	Solar port heaters off
	09:07:09	547.15	821	Elevate to internal source (stow)
	09:07:41	547.68	851	Solar port heaters on
	09:09:49	549.82	882	Detector bias heater on at level 1
	09:13:33	553.55	892	SWICS on at level 3
	09:16:45	556.75	881	Detector bias heater off
	09:21:01	561.02	872	MFOV BB heater on at temp. 1
	09:22:05	562.08	891	SWICS off
	09:35:25	575.42	883	Detector bias heater on at level 2
	09:39:09	579.15	893	SWICS on at level 2
	09:42:21	582.35	881	Detector bias heater off
	09:46:05	586.08	863	WFOV BB heater on at temp. 2
	09:46:37	586.62	873	MFOV BB heater on at temp. 2

Table 7. Continued

Date	Universal time hr:min:sec	Universal time Minutes of day	Hex command	Event description
01/03/90	09:47:41	587.68	891	SWICS off
	10:01:01	601.02	884	Detector bias heater on at level 3
	10:04:45	604.75	894	SWICS on at level 1
	10:06:53	606.88	881	Detector bias heater off
	10:09:33	609.55	852	Solar port heaters off
	10:10:37	610.62	861	WFOV BB heater off
	10:11:09	611.15	871	MFOV BB heater off
	10:11:41	611.68	851	Solar port heaters on
	10:12:13	612.22	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
01/03/90	10:14:53	614.88	419	Address azimuth position A
	10:15:25	615.42	208	Data command, high byte
	10:15:57	615.95	193	Data command, low byte
End azimuth angle load commands (A = 164.62°).				
01/03/90	10:53:49	653.82	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
01/03/90	11:54:37	714.62	419	Address azimuth position A
	11:55:09	715.15	208	Data command, high byte
	11:55:41	715.68	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
01/03/90	11:57:17	717.28	822	Elevate to solar ports (Sun)
	11:58:21	718.35	883	Detector bias heater on at level 2
	12:08:29	728.48	831	SMA shutter cycle on
	12:35:41	755.68	832	SMA shutter cycle off
	12:36:13	756.22	881	Detector bias heater off

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Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
01/03/90	12:55:25	775.42	882	Detector bias heater on at level 1
	12:58:05	778.08	881	Detector bias heater off
	12:58:37	778.62	883	Detector bias heater on at level 2
	13:01:17	781.28	881	Detector bias heater off
	13:01:49	781.82	884	Detector bias heater on at level 3
	13:04:29	784.48	881	Detector bias heater off
	13:05:01	785.02	852	Solar port heaters off
	13:21:01	801.02	851	Solar port heaters on
	13:21:33	801.55	821	Elevate to internal source (stow)
	14:17:01	857.02	814	Azimuth to position A
	15:05:01	905.02	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
01/03/90	15:59:25	959.42	882	Detector bias heater on at level 1
	16:02:05	962.08	881	Detector bias heater off
	16:02:37	962.62	883	Detector bias heater on at level 2
	16:05:17	965.28	881	Detector bias heater off
	16:05:49	965.82	884	Detector bias heater on at level 3
	16:08:29	968.48	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
01/17/90	06:28:13	388.22	882	Detector bias heater on at level 1
	06:30:53	390.88	881	Detector bias heater off
	06:31:25	391.42	883	Detector bias heater on at level 2
	06:34:05	394.08	881	Detector bias heater off
	06:34:37	394.62	884	Detector bias heater on at level 3
	06:37:17	397.28	881	Detector bias heater off

Table 7. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
01/17/90	08:02:37	482.62	821	Elevate to internal source (stow)
	08:18:37	498.62	862	WFOV BB heater on at temp. 1
	08:34:37	514.62	872	MFOV BB heater on at temp. 1
	09:45:33	585.55	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
01/17/90	09:46:37	586.62	881	Detector bias heater off
	09:47:09	587.15	852	Solar port heaters off
	09:47:41	587.68	821	Elevate to internal source (stow)
	10:07:57	607.95	891	SWICS off
	10:15:57	615.95	883	Detector bias heater on at level 2
	10:25:01	625.02	881	Detector bias heater off
	10:26:37	626.62	863	WFOV BB heater on at temp. 2
	10:27:09	627.15	873	MFOV BB heater on at temp. 2
	10:28:13	628.22	891	SWICS off
	10:41:33	641.55	884	Detector bias heater on at level 3
	10:45:17	645.28	894	SWICS on at level 1
	10:47:25	647.42	881	Detector bias heater off
	10:50:05	650.08	852	Solar port heaters off
	10:51:09	651.15	861	WFOV BB heater off
	10:51:41	651.68	871	MFOV BB heater off
	10:52:13	652.22	851	Solar port heaters on
	10:52:45	652.75	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
01/17/90	10:55:25	655.42	419	Address azimuth position A
	10:55:57	655.95	208	Data command, high byte

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Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
01/17/90	10:56:29	656.48	19F	Data command, low byte
End azimuth angle load commands (A = 165.53°).				
01/17/90	11:34:21	694.35	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
01/17/90	12:35:09	755.15	419	Address azimuth position A
	12:35:41	755.68	208	Data command, high byte
	12:36:13	756.22	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
01/17/90	12:37:49	757.82	822	Elevate to solar ports (Sun)
	12:38:53	758.88	883	Detector bias heater on at level 2
	12:49:01	769.02	831	SMA shutter cycle on
	13:16:13	796.22	832	SMA shutter cycle off
	13:16:45	796.75	881	Detector bias heater off
	13:35:57	815.95	882	Detector bias heater on at level 1
	13:38:37	818.62	881	Detector bias heater off
	13:39:09	819.15	883	Detector bias heater on at level 2
	13:41:49	821.82	881	Detector bias heater off
	13:42:21	822.35	884	Detector bias heater on at level 3
	13:45:01	825.02	881	Detector bias heater off
	13:45:33	825.55	852	Solar port heaters off
	14:01:33	841.55	851	Solar port heaters on
	14:02:05	842.08	821	Elevate to internal source (stow)
	15:45:33	945.55	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
01/17/90	16:39:57	999.95	882	Detector bias heater on at level 1

Table 7. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
01/17/90	16:42:37	1002.62	881	Detector bias heater off
	16:43:09	1003.15	883	Detector bias heater on at level 2
	16:45:49	1005.82	881	Detector bias heater off
	16:46:21	1006.35	884	Detector bias heater on at level 3
	16:49:01	1009.02	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.
01/24/90	06:48:45	408.75	882	Detector bias heater on at level 1
	06:51:25	411.42	881	Detector bias heater off
	06:51:57	411.95	883	Detector bias heater on at level 2
	06:54:37	414.62	881	Detector bias heater off
	06:55:09	415.15	884	Detector bias heater on at level 3
	06:57:49	417.82	881	Detector bias heater off
	08:23:09	503.15	821	Elevate to internal source (stow)
	08:38:53	518.88	862	WFOV BB heater on at temp. 1
	08:54:53	534.88	872	MFOV BB heater on at temp. 1
	10:05:49	605.82	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.
01/24/90	10:06:53	606.88	881	Detector bias heater off
	10:07:25	607.42	852	Solar port heaters off
	10:07:57	607.95	821	Elevate to internal source (stow)
	10:08:29	608.48	851	Solar port heaters on
	10:10:37	610.62	882	Detector bias heater on at level 1
	10:14:21	614.35	892	SWICS on at level 3
	10:17:33	617.55	881	Detector bias heater off
	10:21:17	621.28	862	WFOV BB heater on at temp. 1

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
01/24/90	10:21:49	621.82	872	MFOV BB heater on at temp. 1
	10:22:53	622.88	891	SWICS off
	10:36:13	636.22	883	Detector bias heater on at level 2
	10:39:57	639.95	893	SWICS on at level 2
	10:43:09	643.15	881	Detector bias heater off
	10:46:53	646.88	863	WFOV BB heater on at temp. 2
	10:47:25	647.42	873	MFOV BB heater on at temp. 2
	10:48:29	648.48	891	SWICS off
	11:01:49	661.82	884	Detector bias heater on at level 3
	11:05:33	665.55	894	SWICS on at level 1
	11:07:41	667.68	881	Detector bias heater off
	11:10:21	670.35	852	Solar port heaters off
	11:11:25	671.42	861	WFOV BB heater off
	11:11:57	671.95	871	MFOV BB heater off
	11:12:29	672.48	851	Solar port heaters on
	11:13:01	673.02	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
01/24/90	11:15:41	675.68	419	Address azimuth position A
	11:16:13	676.22	208	Data command, high byte
	11:16:45	676.75	1AB	Data command, low byte
End azimuth angle load commands (A = 166.43°).				
01/24/90	11:54:37	714.62	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
01/24/90	12:55:25	775.42	419	Address azimuth position A
	12:55:57	775.95	208	Data command, high byte

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
01/24/90	12:56:29	776.48	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
01/24/90	12:58:05	778.08	822	Elevate to solar ports (Sun)
	12:59:09	779.15	883	Detector bias heater on at level 2
	13:09:17	789.28	831	SMA shutter cycle on
	13:36:29	816.48	832	SMA shutter cycle off
	13:37:01	817.02	881	Detector bias heater off
	13:56:13	836.22	882	Detector bias heater on at level 1
	13:58:53	838.88	881	Detector bias heater off
	13:59:25	839.42	883	Detector bias heater on at level 2
	14:02:05	842.08	881	Detector bias heater off
	14:02:37	842.62	884	Detector bias heater on at level 3
	14:05:17	845.28	881	Detector bias heater off
	14:05:49	845.82	852	Solar port heaters off
	14:21:49	861.82	851	Solar port heaters on
	14:22:21	862.35	821	Elevate to internal source (stow)
	16:05:49	965.82	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
01/24/90	17:00:13	1020.22	882	Detector bias heater on at level 1
	17:02:53	1022.88	881	Detector bias heater off
	17:03:25	1023.42	883	Detector bias heater on at level 2
	17:06:05	1026.08	881	Detector bias heater off
	17:06:37	1026.62	884	Detector bias heater on at level 3
	17:09:17	1029.28	881	Detector bias heater off
End postcalibration sequence.				

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
Begin preinternal calibration sequence.				
01/31/90	05:27:57	327.95	882	Detector bias heater on at level 1
	05:30:37	330.62	881	Detector bias heater off
	05:31:09	331.15	883	Detector bias heater on at level 2
	05:33:49	333.82	881	Detector bias heater off
	05:34:21	334.35	884	Detector bias heater on at level 3
	05:37:01	337.02	881	Detector bias heater off
	07:02:21	422.35	821	Elevate to internal source (stow)
	07:18:21	438.35	862	WFOV BB heater on at temp. 1
	07:34:21	454.35	872	MFOV BB heater on at temp. 1
	08:45:17	525.28	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
01/31/90	08:46:21	526.35	881	Detector bias heater off
	08:46:53	526.88	852	Solar port heaters off
	08:47:25	527.42	821	Elevate to internal source (stow)
	08:47:57	527.95	851	Solar port heaters on
	08:50:05	530.08	882	Detector bias heater on at level 1
	08:54:53	534.88	892	SWICS on at level 3
	08:57:01	537.02	881	Detector bias heater off
	09:00:45	540.75	862	WFOV BB heater on at temp. 1
	09:01:17	541.28	872	MFOV BB heater on at temp. 1
	09:02:21	542.35	891	SWICS off
	09:15:41	555.68	883	Detector bias heater on at level 2
	09:19:25	559.42	893	SWICS on at level 2
	09:22:37	562.62	881	Detector bias heater off

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
01/31/90	09:26:21	566.35	863	WFOV BB heater on at temp. 2
	09:26:53	566.88	873	MFOV BB heater on at temp. 2
	09:27:57	567.95	891	SWICS off
	09:41:17	581.28	884	Detector bias heater on at level 3
	09:45:01	585.02	894	SWICS on at level 1
	09:47:09	587.15	881	Detector bias heater off
	09:49:49	589.82	852	Solar port heaters off
	09:50:53	590.88	861	WFOV BB heater off
	09:51:25	591.42	871	MFOV BB heater off
	09:51:57	591.95	851	Solar port heaters on
	09:52:29	592.48	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
01/31/90	09:55:09	595.15	419	Address azimuth position A
	09:55:41	595.68	208	Data command, high byte
	09:56:13	596.22	1B9	Data command, low byte
End azimuth angle load commands (A = 167.48°).				
01/31/90	10:34:05	634.08	814	Azimuth to position A
Begin solar calibration sequence.				
01/31/90	12:19:41	739.68	881	Detector bias heater off
	12:35:41	755.68	882	Detector bias heater on at level 1
	12:38:21	758.35	881	Detector bias heater off
	12:38:53	758.88	883	Detector bias heater on at level 2
	12:42:37	762.62	884	Detector bias heater on at level 3
	12:44:45	764.75	881	Detector bias heater off
	12:45:17	765.28	852	Solar port heaters off

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Table 7. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
01/31/90	13:01:17	781.28	851	Solar port heaters on
	13:01:49	781.82	821	Elevate to internal source (stow)
	14:45:17	885.28	823	Elevate to nadir (Earth)
Some commands obscured by data dropout. End solar calibration sequence. Begin postcalibration sequence.				
01/31/90	15:39:41	939.68	882	Detector bias heater on at level 1
	15:42:21	942.35	881	Detector bias heater off
	15:42:53	942.88	883	Detector bias heater on at level 2
	15:45:33	945.55	881	Detector bias heater off
	15:46:05	946.08	884	Detector bias heater on at level 3
	15:48:45	948.75	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
02/07/90	05:49:49	349.82	882	Detector bias heater on at level 1
	05:52:29	352.48	881	Detector bias heater off
	05:53:01	353.02	883	Detector bias heater on at level 2
	05:55:41	355.68	881	Detector bias heater off
	05:56:13	356.22	884	Detector bias heater on at level 3
	05:58:53	358.88	881	Detector bias heater off
	07:24:13	444.22	821	Elevate to internal source (stow)
	07:40:13	460.22	862	WFOV BB heater on at temp. 1
	07:56:13	476.22	872	MFOV BB heater on at temp. 1
	09:07:09	547.15	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
02/07/90	09:08:13	548.22	881	Detector bias heater off
	09:08:45	548.75	852	Solar port heaters off

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
02/07/90	09:09:17	549.28	821	Elevate to internal source (stow)
	09:09:49	549.82	851	Solar port heaters on
	09:11:57	551.95	882	Detector bias heater on at level 1
	09:15:41	555.68	892	SWICS on at level 3
	09:18:53	558.88	881	Detector bias heater off
	09:22:37	562.62	862	WFOV BB heater on at temp. 1
	09:23:09	563.15	872	MFOV BB heater on at temp. 1
	09:24:13	564.22	891	SWICS off
	09:37:33	577.55	883	Detector bias heater on at level 2
	09:41:17	581.28	893	SWICS on at level 2
	09:44:29	584.48	881	Detector bias heater off
	09:48:13	588.22	863	WFOV BB heater on at temp. 2
	09:48:45	588.75	873	MFOV BB heater on at temp. 2
	09:49:49	589.82	891	SWICS off
	10:03:09	603.15	884	Detector bias heater on at level 3
	10:06:53	606.88	894	SWICS on at level 1
	10:09:01	609.02	881	Detector bias heater off
	10:11:41	611.68	852	Solar port heaters off
	10:12:45	612.75	861	WFOV BB heater off
	10:13:17	613.28	871	MFOV BB heater off
	10:13:49	613.82	851	Solar port heaters on
	10:14:21	614.35	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
02/07/90	10:17:01	617.02	419	Address azimuth position A
	10:17:33	617.55	208	Data command, high byte

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
02/07/90	10:18:05	618.08	1CB	Data command, low byte
End azimuth angle load commands (A = 168.83°).				
02/07/90	10:56:29	656.48	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
02/07/90	11:56:45	716.75	419	Address azimuth position A
	11:57:17	717.28	208	Data command, high byte
	11:57:49	717.82	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
02/07/90	11:59:25	719.42	822	Elevate to solar ports (Sun)
	12:00:29	720.48	883	Detector bias heater on at level 2
	12:10:37	730.62	831	SMA shutter cycle on
	12:37:49	757.82	832	SMA shutter cycle off
	12:38:21	758.35	881	Detector bias heater off
	12:57:33	777.55	882	Detector bias heater on at level 1
	13:00:13	780.22	881	Detector bias heater off
	13:00:45	780.75	883	Detector bias heater on at level 2
	13:03:25	783.42	881	Detector bias heater off
	13:03:57	783.95	884	Detector bias heater on at level 3
	13:06:37	786.62	881	Detector bias heater off
	13:07:09	787.15	852	Solar port heaters off
	13:23:09	803.15	851	Solar port heaters on
	13:23:41	803.68	821	Elevate to internal source (stow)
	15:07:09	907.15	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
02/07/90	16:01:33	961.55	882	Detector bias heater on at level 1

Table 7. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
02/07/90	16:04:13	964.22	881	Detector bias heater off
	16:04:45	964.75	883	Detector bias heater on at level 2
	16:07:25	967.42	881	Detector bias heater off
	16:07:57	967.95	884	Detector bias heater on at level 3
	16:10:37	970.62	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
02/14/90	06:11:41	371.68	882	Detector bias heater on at level 1
	06:14:21	374.35	881	Detector bias heater off
	06:14:53	374.88	883	Detector bias heater on at level 2
	06:17:33	377.55	881	Detector bias heater off
	06:18:05	378.08	884	Detector bias heater on at level 3
	06:20:45	380.75	881	Detector bias heater off
	07:46:05	466.08	821	Elevate to internal source (stow)
	08:02:05	482.08	862	WFOV BB heater on at temp. 1
	08:18:05	498.08	872	MFOV BB heater on at temp. 1
	09:29:01	569.02	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
02/14/90	09:30:05	570.08	881	Detector bias heater off
	09:30:37	570.62	852	Solar port heaters off
	09:32:45	572.75	851	Solar port heaters on
	09:33:49	573.82	882	Detector bias heater on at level 1
	09:37:33	577.55	892	SWICS on at level 3
	09:40:45	580.75	881	Detector bias heater off
	09:44:29	584.48	862	WFOV BB heater on at temp. 1
	09:45:01	585.02	872	MFOV BB heater on at temp. 1

Table 7. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
02/14/90	09:46:05	586.08	891	SWICS off
	09:59:25	599.42	883	Detector bias heater on at level 2
	10:03:09	603.15	893	SWICS on at level 2
	10:06:21	606.35	881	Detector bias heater off
	10:10:05	610.08	863	WFOV BB heater on at temp. 2
	10:10:37	610.62	873	MFOV BB heater on at temp. 2
	10:11:41	611.68	891	SWICS off
	10:25:01	625.02	884	Detector bias heater on at level 3
	10:28:45	628.75	894	SWICS on at level 1
	10:30:53	630.88	881	Detector bias heater off
	10:33:33	633.55	852	Solar port heaters off
	10:34:37	634.62	861	WFOV BB heater off
	10:35:09	635.15	871	MFOV BB heater off
	10:35:41	635.68	851	Solar port heaters on
	10:36:13	636.22	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
02/14/90	10:38:53	638.88	419	Address azimuth position A
	10:39:25	639.42	208	Data command, high byte
	10:39:57	639.95	1DD	Data command, low byte
End azimuth angle load commands (A = 170.18°).				
02/14/90	11:17:49	677.82	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
02/14/90	12:18:37	738.62	419	Address azimuth position A
	12:19:09	739.15	208	Data command, high byte
	12:19:41	739.68	1DB	Data command, low byte

Table 7. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
02/14/90	12:21:17	741.28	822	Elevate to solar ports (Sun)
	12:22:21	742.35	883	Detector bias heater on at level 2
	12:32:29	752.48	831	SMA shutter cycle on
	12:59:41	779.68	832	SMA shutter cycle off
	13:00:13	780.22	881	Detector bias heater off
	13:19:25	799.42	882	Detector bias heater on at level 1
	13:22:05	802.08	881	Detector bias heater off
	13:22:37	802.62	883	Detector bias heater on at level 2
	13:25:17	805.28	881	Detector bias heater off
	13:25:49	805.82	884	Detector bias heater on at level 3
	13:28:29	808.48	881	Detector bias heater off
	13:29:01	809.02	852	Solar port heaters off
	13:45:01	825.02	851	Solar port heaters on
	13:45:33	825.55	821	Elevate to internal source (stow)
	15:29:01	929.02	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
02/14/90	16:23:25	983.42	882	Detector bias heater on at level 1
	16:26:05	986.08	881	Detector bias heater off
	16:26:37	986.62	883	Detector bias heater on at level 2
	16:29:17	989.28	881	Detector bias heater off
	16:29:49	989.82	884	Detector bias heater on at level 3
	16:32:29	992.48	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
02/21/90	06:34:05	394.08	882	Detector bias heater on at level 1
	06:36:45	396.75	881	Detector bias heater off
	06:37:17	397.28	883	Detector bias heater on at level 2
	06:39:57	399.95	881	Detector bias heater off
	06:40:29	400.48	884	Detector bias heater on at level 3
	06:43:09	403.15	881	Detector bias heater off
	08:09:01	489.02	821	Elevate to internal source (stow)
	08:24:29	504.48	862	WFOV BB heater on at temp. 1
	08:40:29	520.48	872	MFOV BB heater on at temp. 1
	09:51:25	591.42	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
02/21/90	09:52:29	592.48	881	Detector bias heater off
	09:53:01	593.02	852	Solar port heaters off
	09:53:33	593.55	821	Elevate to internal source (stow)
	09:54:05	594.08	851	Solar port heaters on
	09:56:13	596.22	882	Detector bias heater on at level 1
	09:59:57	599.95	892	SWICS on at level 3
	10:03:09	603.15	881	Detector bias heater off
	10:06:53	606.88	862	WFOV BB heater on at temp. 1
	10:07:25	607.42	872	MFOV BB heater on at temp. 1
	10:08:29	608.48	891	SWICS off
	10:21:49	621.82	883	Detector bias heater on at level 2
	10:25:33	625.55	893	SWICS on at level 2
	10:28:45	628.75	881	Detector bias heater off
	10:32:29	632.48	863	WFOV BB heater on at temp. 2

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
02/21/90	10:33:01	633.02	873	MFOV BB heater on at temp. 2
	10:34:05	634.08	891	SWICS off
	10:47:25	647.42	884	Detector bias heater on at level 3
	10:51:09	651.15	894	SWICS on at level 1
	10:53:17	653.28	881	Detector bias heater off
	10:55:57	655.95	852	Solar port heaters off
	10:57:01	657.02	861	WFOV BB heater off
	10:57:33	657.55	871	MFOV BB heater off
	10:58:05	658.08	851	Solar port heaters on
	10:58:37	658.62	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
02/21/90	11:01:17	661.28	419	Address azimuth position A
	11:01:49	661.82	208	Data command, high byte
	11:02:21	662.35	1ED	Data command, low byte
End azimuth angle load commands (A = 171.38°).				
02/21/90	11:40:13	700.22	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
02/21/90	12:41:01	761.02	419	Address azimuth position A
	12:41:33	761.55	208	Data command, high byte
	12:42:05	762.08	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
02/21/90	12:43:41	763.68	822	Elevate to solar ports (Sun)
	12:44:45	764.75	883	Detector bias heater on at level 2
	12:54:53	774.88	831	SMA shutter cycle on
	13:22:05	802.08	832	SMA shutter cycle off

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
02/21/90	13:22:37	802.62	881	Detector bias heater off
	13:41:49	821.82	882	Detector bias heater on at level 1
	13:44:29	824.48	881	Detector bias heater off
	13:45:01	825.02	883	Detector bias heater on at level 2
	13:47:41	827.68	881	Detector bias heater off
	13:48:13	828.22	884	Detector bias heater on at level 3
	13:50:53	830.88	881	Detector bias heater off
	13:51:25	831.42	852	Solar port heaters off
	14:07:25	847.42	851	Solar port heaters on
	14:07:57	847.95	821	Elevate to internal source (stow)
	15:51:25	951.42	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
02/21/90	16:45:49	1005.82	882	Detector bias heater on at level 1
	16:48:29	1008.48	881	Detector bias heater off
	16:49:01	1009.02	883	Detector bias heater on at level 2
	16:51:41	1011.68	881	Detector bias heater off
	16:52:13	1012.22	884	Detector bias heater on at level 3
	16:54:53	1014.88	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
02/28/90	06:58:06	418.10	882	Detector bias heater on at level 1
	06:59:10	419.17	881	Detector bias heater off
	06:59:42	419.70	883	Detector bias heater on at level 2
	07:02:22	422.37	881	Detector bias heater off
	07:02:54	422.90	884	Detector bias heater on at level 3
	07:05:34	425.57	881	Detector bias heater off

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
02/28/90	08:30:54	510.90	821	Elevate to internal source (stow)
	08:47:58	527.97	862	WFOV BB heater on at temp. 1
	09:02:54	542.90	872	MFOV BB heater on at temp. 1
	10:13:50	613.83	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
02/28/90	10:14:54	614.90	881	Detector bias heater off
	10:15:26	615.43	852	Solar port heaters off
	10:15:58	615.97	821	Elevate to internal source (stow)
	10:16:30	616.50	851	Solar port heaters on
	10:18:38	618.63	882	Detector bias heater on at level 1
	10:22:22	622.37	892	SWICS on at level 3
	10:25:34	625.57	881	Detector bias heater off
	10:29:18	629.30	862	WFOV BB heater on at temp. 1
	10:29:50	629.83	872	MFOV BB heater on at temp. 1
	10:30:54	630.90	891	SWICS off
	10:44:14	644.23	883	Detector bias heater on at level 2
	10:47:58	647.97	893	SWICS on at level 2
	10:51:10	651.17	881	Detector bias heater off
	10:54:54	654.90	863	WFOV BB heater on at temp. 2
	10:55:26	655.43	873	MFOV BB heater on at temp. 2
	10:56:30	656.50	891	SWICS off
	11:09:50	669.83	884	Detector bias heater on at level 3
	11:13:34	673.57	894	SWICS on at level 1
	11:15:42	675.70	881	Detector bias heater off
	11:18:22	678.37	852	Solar port heaters off

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Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
02/28/90	11:19:26	679.43	861	WFOV BB heater off
	11:19:58	679.97	871	MFOV BB heater off
	11:20:30	680.50	851	Solar port heaters on
	11:21:02	681.03	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
02/28/90	11:23:42	683.70	419	Address azimuth position A
	11:24:14	684.23	208	Data command, high byte
	11:24:46	684.77	1F9	Data command, low byte
End azimuth angle load commands (A = 172.28°).				
02/28/90	12:02:38	722.63	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
02/28/90	13:03:26	783.43	419	Address azimuth position A
	13:03:58	783.97	208	Data command, high byte
	13:04:30	784.50	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
02/28/90	13:06:06	786.10	822	Elevate to solar ports (Sun)
	13:07:10	787.17	883	Detector bias heater on at level 2
	13:17:18	797.30	831	SMA shutter cycle on
	13:44:30	824.50	832	SMA shutter cycle off
	13:45:02	825.03	881	Detector bias heater off
	14:04:14	844.23	882	Detector bias heater on at level 1
	14:06:54	846.90	881	Detector bias heater off
	14:07:26	847.43	883	Detector bias heater on at level 2
	14:10:06	850.10	881	Detector bias heater off
	14:10:38	850.63	884	Detector bias heater on at level 3

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
02/28/90	14:13:18	853.30	881	Detector bias heater off
	14:13:50	853.83	852	Solar port heaters off
	14:29:50	869.83	851	Solar port heaters on
	14:30:22	870.37	821	Elevate to internal source (stow)
	16:13:50	973.83	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
02/28/90	17:08:14	1028.23	882	Detector bias heater on at level 1
	17:10:54	1030.90	881	Detector bias heater off
	17:11:26	1031.43	883	Detector bias heater on at level 2
	17:14:06	1034.10	881	Detector bias heater off
	17:14:38	1034.63	884	Detector bias heater on at level 3
	17:17:18	1037.30	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
03/07/90	05:36:30	336.50	882	Detector bias heater on at level 1
	05:39:10	339.17	881	Detector bias heater off
	05:39:42	339.70	883	Detector bias heater on at level 2
	05:42:22	342.37	881	Detector bias heater off
	05:42:54	342.90	884	Detector bias heater on at level 3
	05:45:34	345.57	881	Detector bias heater off
	07:10:54	430.90	821	Elevate to internal source (stow)
	07:26:54	446.90	862	WFOV BB heater on at temp. 1
	07:42:54	462.90	872	MFOV BB heater on at temp. 1
End preinternal calibration sequence. Entire internal calibration missing by data dropout.				
03/07/90	10:42:38	642.63	814	Azimuth to position A

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Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
Begin azimuth angle load commands for normal operational mode.				
03/07/90	11:43:26	703.43	419	Address azimuth position A
	11:43:58	703.97	208	Data command, high byte
	11:44:30	704.50	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
03/07/90	11:46:06	706.10	822	Elevate to solar ports (Sun)
	11:47:10	707.17	883	Detector bias heater on at level 2
	11:57:18	717.30	831	SMA shutter cycle on
	12:24:30	744.50	832	SMA shutter cycle off
	12:25:02	745.03	881	Detector bias heater off
	12:44:14	764.23	882	Detector bias heater on at level 1
	12:46:54	766.90	881	Detector bias heater off
	12:47:26	767.43	883	Detector bias heater on at level 2
	12:50:06	770.10	881	Detector bias heater off
	12:50:38	770.63	884	Detector bias heater on at level 3
	12:53:18	773.30	881	Detector bias heater off
	12:53:50	773.83	852	Solar port heaters off
	13:09:50	789.83	851	Solar port heaters on
	13:10:22	790.37	821	Elevate to internal source (stow)
	14:53:50	893.83	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
03/07/90	15:48:14	948.23	882	Detector bias heater on at level 1
	15:50:54	950.90	881	Detector bias heater off
	15:51:26	951.43	883	Detector bias heater on at level 2
	15:55:42	955.70	884	Detector bias heater on at level 3

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
03/07/90	15:57:18	957.30	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
03/14/90	05:57:50	357.83	882	Detector bias heater on at level 1
	06:00:30	360.50	881	Detector bias heater off
	06:01:02	361.03	883	Detector bias heater on at level 2
	06:03:42	363.70	881	Detector bias heater off
	06:04:14	364.23	884	Detector bias heater on at level 3
	06:06:54	366.90	881	Detector bias heater off
	07:32:14	452.23	821	Elevate to internal source (stow)
	07:48:14	468.23	862	WFOV BB heater on at temp. 1
	08:04:14	484.23	872	MFOV BB heater on at temp. 1
	09:15:10	555.17	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
03/14/90	09:16:14	556.23	881	Detector bias heater off
	09:16:46	556.77	852	Solar port heaters off
	09:17:18	557.30	821	Elevate to internal source (stow)
	09:17:50	557.83	851	Solar port heaters on
	09:19:58	559.97	882	Detector bias heater on at level 1
	09:23:42	563.70	892	SWICS on at level 3
	09:26:54	566.90	881	Detector bias heater off
	09:30:38	570.63	862	WFOV BB heater on at temp. 1
	09:31:10	571.17	872	MFOV BB heater on at temp. 1
	09:32:14	572.23	891	SWICS off
	09:45:34	585.57	883	Detector bias heater on at level 2
	09:49:18	589.30	893	SWICS on at level 2

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
03/14/90	09:52:30	592.50	881	Detector bias heater off
	09:56:14	596.23	863	WFOV BB heater on at temp. 2
	09:56:46	596.77	873	MFOV BB heater on at temp. 2
	09:57:50	597.83	891	SWICS off
	10:11:10	611.17	884	Detector bias heater on at level 3
	10:14:54	614.90	894	SWICS on at level 1
	10:17:02	617.03	881	Detector bias heater off
	10:19:42	619.70	852	Solar port heaters off
	10:20:46	620.77	861	WFOV BB heater off
	10:21:18	621.30	871	MFOV BB heater off
	10:21:50	621.83	851	Solar port heaters on
	10:22:22	622.37	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
03/14/90	10:25:02	625.03	419	Address azimuth position A
	10:25:34	625.57	208	Data command, high byte
	10:26:06	626.10	1F1	Data command, low byte
End azimuth angle load commands (A = 171.68°).				
03/14/90	11:03:58	663.97	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
03/14/90	12:04:46	724.77	419	Address azimuth position A
	12:05:18	725.30	208	Data command, high byte
	12:05:50	725.83	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
03/14/90	12:07:26	727.43	822	Elevate to solar ports (Sun)
	12:08:30	728.50	883	Detector bias heater on at level 2

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
03/14/90	12:18:38	738.63	831	SMA shutter cycle on
	12:45:50	765.83	832	SMA shutter cycle off
	12:46:22	766.37	881	Detector bias heater off
	13:05:34	785.57	882	Detector bias heater on at level 1
	13:08:14	788.23	881	Detector bias heater off
	13:08:46	788.77	883	Detector bias heater on at level 2
	13:11:26	791.43	881	Detector bias heater off
	13:11:58	791.97	884	Detector bias heater on at level 3
	13:14:38	794.63	881	Detector bias heater off
	13:15:10	795.17	852	Solar port heaters off
	13:31:10	811.17	851	Solar port heaters on
	13:31:42	811.70	821	Elevate to internal source (stow)
	15:15:10	915.17	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
03/14/90	16:09:34	969.57	882	Detector bias heater on at level 1
	16:12:14	972.23	881	Detector bias heater off
	16:12:46	972.77	883	Detector bias heater on at level 2
	16:16:30	976.50	884	Detector bias heater on at level 3
	16:18:38	978.63	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
03/21/90	06:17:34	377.57	882	Detector bias heater on at level 1
	06:20:14	380.23	881	Detector bias heater off
	06:20:46	380.77	883	Detector bias heater on at level 2
	06:23:26	383.43	881	Detector bias heater off
	06:23:58	383.97	884	Detector bias heater on at level 3

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
03/21/90	06:26:38	386.63	881	Detector bias heater off
	07:51:58	471.97	821	Elevate to internal source (stow)
	08:07:58	487.97	862	WFOV BB heater on at temp. 1
	08:23:58	503.97	872	MFOV BB heater on at temp. 1
	09:34:54	574.90	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
03/21/90	09:35:58	575.97	881	Detector bias heater off
	09:36:30	576.50	852	Solar port heaters off
	09:37:02	577.03	821	Elevate to internal source (stow)
	09:37:34	577.57	851	Solar port heaters on
	09:39:42	579.70	882	Detector bias heater on at level 1
	09:43:26	583.43	892	SWICS on at level 3
	09:46:38	586.63	881	Detector bias heater off
	09:50:22	590.37	862	WFOV BB heater on at temp. 1
	09:50:54	590.90	872	MFOV BB heater on at temp. 1
	09:51:58	591.97	891	SWICS off
	10:05:18	605.30	883	Detector bias heater on at level 2
	10:09:02	609.03	893	SWICS on at level 2
	10:12:14	612.23	881	Detector bias heater off
	10:15:58	615.97	863	WFOV BB heater on at temp. 2
	10:16:30	616.50	873	MFOV BB heater on at temp. 2
	10:17:34	617.57	891	SWICS off
	10:30:54	630.90	884	Detector bias heater on at level 3
	10:34:38	634.63	894	SWICS on at level 1
	10:36:46	636.77	881	Detector bias heater off

Table 7. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
03/21/90	10:39:26	639.43	852	Solar port heaters off
	10:40:30	640.50	861	WFOV BB heater off
	10:41:02	641.03	871	MFOV BB heater off
	10:41:34	641.57	851	Solar port heaters on
	10:42:06	642.10	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
03/21/90	10:44:46	644.77	419	Address azimuth position A
	10:45:18	645.30	208	Data command, high byte
	10:45:50	645.83	1DE	Data command, low byte
End azimuth angle load commands (A = 170.25°).				
03/21/90	11:23:42	683.70	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
03/21/90	12:24:30	744.50	419	Address azimuth position A
	12:25:02	745.03	208	Data command, high byte
	12:25:34	745.57	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
03/21/90	12:27:10	747.17	822	Elevate to solar ports (Sun)
	12:28:14	748.23	883	Detector bias heater on at level 2
	12:38:22	758.37	831	SMA shutter cycle on
	13:05:34	785.57	832	SMA shutter cycle off
	13:06:06	786.10	881	Detector bias heater off
	13:25:18	805.30	882	Detector bias heater on at level 1
	13:27:58	807.97	881	Detector bias heater off
	13:28:30	808.50	883	Detector bias heater on at level 2
	13:31:10	811.17	881	Detector bias heater off

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
03/21/90	13:31:42	811.70	884	Detector bias heater on at level 3
	13:34:22	814.37	881	Detector bias heater off
	13:34:54	814.90	852	Solar port heaters off
	13:50:54	830.90	851	Solar port heaters on
	13:51:26	831.43	821	Elevate to internal source (stow)
	15:34:54	934.90	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
03/21/90	16:29:18	989.30	882	Detector bias heater on at level 1
	16:31:58	991.97	881	Detector bias heater off
	16:32:30	992.50	883	Detector bias heater on at level 2
	16:35:10	995.17	881	Detector bias heater off
	16:35:42	995.70	884	Detector bias heater on at level 3
	16:38:22	998.37	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
03/28/90	06:37:18	397.30	882	Detector bias heater on at level 1
	06:39:58	399.97	881	Detector bias heater off
	06:40:30	400.50	883	Detector bias heater on at level 2
	06:43:10	403.17	881	Detector bias heater off
	06:43:42	403.70	884	Detector bias heater on at level 3
	06:46:22	406.37	881	Detector bias heater off
	08:11:42	491.70	821	Elevate to internal source (stow)
	08:27:42	507.70	862	WFOV BB heater on at temp. 1
	08:43:42	523.70	872	MFOV BB heater on at temp. 1
	09:54:38	594.63	823	Elevate to nadir (Earth)
End preinternal calibration sequence.				

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
Begin internal calibration sequence.				
03/28/90	09:55:42	595.70	881	Detector bias heater off
	09:56:14	596.23	852	Solar port heaters off
	09:56:46	596.77	821	Elevate to internal source (stow)
	09:57:18	597.30	851	Solar port heaters on
	09:59:26	599.43	882	Detector bias heater on at level 1
	10:03:10	603.17	892	SWICS on at level 3
	10:06:22	606.37	881	Detector bias heater off
	10:10:06	610.10	862	WFOV BB heater on at temp. 1
	10:10:38	610.63	872	MFOV BB heater on at temp. 1
	10:11:42	611.70	891	SWICS off
	10:25:02	625.03	883	Detector bias heater on at level 2
	10:28:46	628.77	893	SWICS on at level 2
	10:31:58	631.97	881	Detector bias heater off
	10:35:42	635.70	863	WFOV BB heater on at temp. 2
	10:36:14	636.23	873	MFOV BB heater on at temp. 2
	10:37:18	637.30	891	SWICS off
	10:50:38	650.63	884	Detector bias heater on at level 3
	10:54:22	654.37	894	SWICS on at level 1
	10:56:30	656.50	881	Detector bias heater off
	10:59:10	659.17	852	Solar port heaters off
	11:00:14	660.23	861	WFOV BB heater off
	11:00:46	660.77	871	MFOV BB heater off
	11:01:18	661.30	851	Solar port heaters on
	11:01:50	661.83	891	SWICS off
End internal calibration sequence.				

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
Begin azimuth angle load commands for solar calibration.				
03/28/90	11:04:30	664.50	419	Address azimuth position A
	11:05:02	665.03	208	Data command, high byte
	11:05:34	665.57	1C4	Data command, low byte
End azimuth angle load commands (A = 168.30°).				
03/28/90	11:43:26	703.43	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
03/28/90	12:44:14	764.23	419	Address azimuth position A
	12:44:46	764.77	208	Data command, high byte
	12:45:18	765.30	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
03/28/90	12:46:54	766.90	822	Elevate to solar ports (Sun)
	12:47:58	767.97	883	Detector bias heater on at level 2
	12:58:06	778.10	831	SMA shutter cycle on
	13:25:18	805.30	832	SMA shutter cycle off
	13:25:50	805.83	881	Detector bias heater off
	13:45:02	825.03	882	Detector bias heater on at level 1
	13:47:42	827.70	881	Detector bias heater off
	13:48:14	828.23	883	Detector bias heater on at level 2
	13:50:54	830.90	881	Detector bias heater off
	13:51:26	831.43	884	Detector bias heater on at level 3
	13:54:06	834.10	881	Detector bias heater off
	13:54:38	834.63	852	Solar port heaters off
	14:10:38	850.63	851	Solar port heaters on
	14:11:10	851.17	821	Elevate to internal source (stow)

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
03/28/90	15:54:38	954.63	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
03/28/90	16:49:02	1009.03	882	Detector bias heater on at level 1
	16:51:42	1011.70	881	Detector bias heater off
	16:52:14	1012.23	883	Detector bias heater on at level 2
	16:54:54	1014.90	881	Detector bias heater off
	16:55:26	1015.43	884	Detector bias heater on at level 3
	16:58:06	1018.10	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
04/04/90	06:56:30	416.50	882	Detector bias heater on at level 1
	06:59:10	419.17	881	Detector bias heater off
	06:59:42	419.70	883	Detector bias heater on at level 2
	07:02:22	422.37	881	Detector bias heater off
	07:02:54	422.90	884	Detector bias heater on at level 3
	07:05:34	425.57	881	Detector bias heater off
	08:30:54	510.90	821	Elevate to internal source (stow)
	08:46:54	526.90	862	WFOV BB heater on at temp. 1
	09:02:54	542.90	872	MFOV BB heater on at temp. 1
	10:13:50	613.83	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
04/04/90	10:14:54	614.90	881	Detector bias heater off
	10:15:26	615.43	852	Solar port heaters off
	10:15:58	615.97	821	Elevate to internal source (stow)
	10:16:30	616.50	851	Solar port heaters on

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
04/04/90	10:18:38	618.63	882	Detector bias heater on at level 1
	10:22:22	622.37	892	SWICS on at level 3
	10:25:34	625.57	881	Detector bias heater off
	10:29:18	629.30	862	WFOV BB heater on at temp. 1
	10:29:50	629.83	872	MFOV BB heater on at temp. 1
	10:30:54	630.90	891	SWICS off
	10:44:14	644.23	883	Detector bias heater on at level 2
	10:47:58	647.97	893	SWICS on at level 2
	10:51:10	651.17	881	Detector bias heater off
	10:54:54	654.90	863	WFOV BB heater on at temp. 2
	10:55:26	655.43	873	MFOV BB heater on at temp. 2
	10:56:30	656.50	891	SWICS off
	11:09:50	669.83	884	Detector bias heater on at level 3
	11:13:34	673.57	894	SWICS on at level 1
	11:15:42	675.70	881	Detector bias heater off
	11:18:22	678.37	852	Solar port heaters off
	11:19:26	679.43	861	WFOV BB heater off
	11:19:58	679.97	871	MFOV BB heater off
	11:20:30	680.50	851	Solar port heaters on
	11:21:02	681.03	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
04/04/90	11:23:42	683.70	419	Address azimuth position A
	11:24:14	684.23	208	Data command, high byte
	11:24:46	684.77	1A6	Data command, low byte
End azimuth angle load commands (A = 166.05°).				

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
Begin solar calibration sequence.				
04/04/90	13:24:46	804.77	831	SMA shutter cycle on
	13:44:30	824.50	832	SMA shutter cycle off
	13:45:02	825.03	881	Detector bias heater off
	14:04:14	844.23	882	Detector bias heater on at level 1
	14:06:54	846.90	881	Detector bias heater off
	14:07:26	847.43	883	Detector bias heater on at level 2
	14:10:06	850.10	881	Detector bias heater off
	14:10:38	850.63	884	Detector bias heater on at level 3
	14:13:18	853.30	881	Detector bias heater off
	14:13:50	853.83	852	Solar port heaters off
	14:29:50	869.83	851	Solar port heaters on
	14:30:22	870.37	821	Elevate to internal source (stow)
	16:13:50	973.83	823	Elevate to nadir (Earth)
Partially obscured by data dropout. End solar calibration sequence. Begin postcalibration sequence.				
04/04/90	17:09:50	1029.83	882	Detector bias heater on at level 1
	17:10:54	1030.90	881	Detector bias heater off
	17:11:26	1031.43	883	Detector bias heater on at level 2
	17:14:06	1034.10	881	Detector bias heater off
	17:14:38	1034.63	884	Detector bias heater on at level 3
	17:17:18	1037.30	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
04/11/90	05:33:18	333.30	882	Detector bias heater on at level 1
	05:35:58	335.97	881	Detector bias heater off

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
04/11/90	05:36:30	336.50	883	Detector bias heater on at level 2
	05:39:10	339.17	881	Detector bias heater off
	05:39:42	339.70	884	Detector bias heater on at level 3
	05:42:22	342.37	881	Detector bias heater off
	07:07:42	427.70	821	Elevate to internal source (stow)
	07:23:42	443.70	862	WFOV BB heater on at temp. 1
	07:39:42	459.70	872	MFOV BB heater on at temp. 1
	08:50:38	530.63	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
04/11/90	08:51:42	531.70	881	Detector bias heater off
	08:52:14	532.23	852	Solar port heaters off
	08:52:46	532.77	821	Elevate to internal source (stow)
	08:53:18	533.30	851	Solar port heaters on
	08:55:26	535.43	882	Detector bias heater on at level 1
	08:59:10	539.17	892	SWICS on at level 3
	09:02:22	542.37	881	Detector bias heater off
	09:06:06	546.10	862	WFOV BB heater on at temp. 1
	09:06:38	546.63	872	MFOV BB heater on at temp. 1
	09:07:42	547.70	891	SWICS off
	09:21:02	561.03	883	Detector bias heater on at level 2
	09:24:46	564.77	893	SWICS on at level 2
	09:27:58	567.97	881	Detector bias heater off
	09:31:42	571.70	863	WFOV BB heater on at temp. 2
	09:32:14	572.23	873	MFOV BB heater on at temp. 2
	09:33:18	573.30	891	SWICS off

Table 7. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
04/11/90	09:46:38	586.63	884	Detector bias heater on at level 3
	09:50:22	590.37	894	SWICS on at level 1
	09:52:30	592.50	881	Detector bias heater off
	09:55:10	595.17	852	Solar port heaters off
	09:56:14	596.23	861	WFOV BB heater off
	09:56:46	596.77	871	MFOV BB heater off
	09:57:18	597.30	851	Solar port heaters on
	09:57:50	597.83	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
04/11/90	10:00:30	600.50	419	Address azimuth position A
	10:01:02	601.03	208	Data command, high byte
	10:01:34	601.57	187	Data command, low byte
End azimuth angle load commands (A = 163.73°).				
04/11/90	10:39:26	639.43	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
04/11/90	11:40:14	700.23	419	Address azimuth position A
	11:40:46	700.77	208	Data command, high byte
	11:41:18	701.30	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
04/11/90	11:42:54	702.90	822	Elevate to solar ports (Sun)
	11:43:58	703.97	883	Detector bias heater on at level 2
	11:54:06	714.10	831	SMA shutter cycle on
	12:21:18	741.30	832	SMA shutter cycle off
	12:21:50	741.83	881	Detector bias heater off
	12:41:02	761.03	882	Detector bias heater on at level 1

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
04/11/90	12:43:42	763.70	881	Detector bias heater off
	12:44:14	764.23	883	Detector bias heater on at level 2
	12:46:54	766.90	881	Detector bias heater off
	12:47:26	767.43	884	Detector bias heater on at level 3
	12:50:06	770.10	881	Detector bias heater off
	12:50:38	770.63	852	Solar port heaters off
	13:06:38	786.63	851	Solar port heaters on
	13:07:10	787.17	821	Elevate to internal source (stow)
	14:50:38	890.63	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
04/11/90	15:45:02	945.03	882	Detector bias heater on at level 1
	15:47:42	947.70	881	Detector bias heater off
	15:48:14	948.23	883	Detector bias heater on at level 2
	15:50:54	950.90	881	Detector bias heater off
	15:51:26	951.43	884	Detector bias heater on at level 3
	15:54:06	954.10	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
04/18/90	05:51:27	351.45	882	Detector bias heater on at level 1
	05:54:07	354.12	881	Detector bias heater off
	05:54:39	354.65	883	Detector bias heater on at level 2
	05:57:19	357.32	881	Detector bias heater off
	05:57:51	357.85	884	Detector bias heater on at level 3
	06:00:31	360.52	881	Detector bias heater off
	07:25:51	445.85	821	Elevate to internal source (stow)
	07:41:51	461.85	862	WFOV BB heater on at temp. 1

Table 7. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
04/18/90	07:57:51	477.85	872	MFOV BB heater on at temp. 1
	09:08:47	548.78	823	Elevate to nadir (Earth)

End preinternal calibration sequence.
Begin internal calibration sequence.

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
04/18/90	09:09:51	549.85	881	Detector bias heater off
	09:10:23	550.38	852	Solar port heaters off
	09:10:55	550.92	821	Elevate to internal source (stow)
	09:11:27	551.45	851	Solar port heaters on
	09:13:35	553.58	882	Detector bias heater on at level 1
	09:17:19	557.32	892	SWICS on at level 3
	09:20:31	560.52	881	Detector bias heater off
	09:24:15	564.25	862	WFOV BB heater on at temp. 1
	09:24:47	564.78	872	MFOV BB heater on at temp. 1
	09:25:51	565.85	891	SWICS off
	09:39:11	579.18	883	Detector bias heater on at level 2
	09:42:55	582.92	893	SWICS on at level 2
	09:46:07	586.12	881	Detector bias heater off
	09:49:51	589.85	863	WFOV BB heater on at temp. 2
	09:50:23	590.38	873	MFOV BB heater on at temp. 2
	09:51:27	591.45	891	SWICS off
	10:04:47	604.78	884	Detector bias heater on at level 3
	10:08:31	608.52	894	SWICS on at level 1
	10:10:39	610.65	881	Detector bias heater off
	10:13:19	613.32	852	Solar port heaters off
	10:14:23	614.38	861	WFOV BB heater off
	10:14:55	614.92	871	MFOV BB heater off

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Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
04/18/90	10:15:27	615.45	851	Solar port heaters on
	10:15:59	615.98	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
04/18/90	10:18:39	618.65	419	Address azimuth position A
	10:19:11	619.18	208	Data command, high byte
	10:19:43	619.72	168	Data command, low byte
End azimuth angle load commands (A = 161.40°).				
04/18/90	10:57:35	657.58	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
04/18/90	11:58:23	718.38	419	Address azimuth position A
	11:58:55	718.92	208	Data command, high byte
	11:59:27	719.45	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
04/18/90	12:01:03	721.05	822	Elevate to solar ports (Sun)
	12:02:07	722.12	883	Detector bias heater on at level 2
	12:12:15	732.25	831	SMA shutter cycle on
	12:39:27	759.45	832	SMA shutter cycle off
	12:39:59	759.98	881	Detector bias heater off
	12:59:11	779.18	882	Detector bias heater on at level 1
	13:01:51	781.85	881	Detector bias heater off
	13:02:23	782.38	883	Detector bias heater on at level 2
	13:05:03	785.05	881	Detector bias heater off
	13:05:35	785.58	884	Detector bias heater on at level 3
	13:08:15	788.25	881	Detector bias heater off

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
04/18/90	13:08:47	788.78	852	Solar port heaters off
	13:24:47	804.78	851	Solar port heaters on
	13:25:19	805.32	821	Elevate to internal source (stow)
	15:08:47	908.78	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
04/18/90	16:03:11	963.18	882	Detector bias heater on at level 1
	16:06:23	966.38	883	Detector bias heater on at level 2
	16:09:03	969.05	881	Detector bias heater off
	16:09:35	969.58	884	Detector bias heater on at level 3
	16:12:15	972.25	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
04/25/90	06:10:07	370.12	882	Detector bias heater on at level 1
	06:12:47	372.78	881	Detector bias heater off
	06:13:19	373.32	883	Detector bias heater on at level 2
	06:15:59	375.98	881	Detector bias heater off
	06:16:31	376.52	884	Detector bias heater on at level 3
	06:19:11	379.18	881	Detector bias heater off
	07:44:31	464.52	821	Elevate to internal source (stow)
	08:00:31	480.52	862	WFOV BB heater on at temp. 1
	08:16:31	496.52	872	MFOV BB heater on at temp. 1
	09:27:27	567.45	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
04/25/90	09:28:31	568.52	881	Detector bias heater off
	09:29:03	569.05	852	Solar port heaters off

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
04/25/90	09:29:35	569.58	821	Elevate to internal source (stow)
	09:30:07	570.12	851	Solar port heaters on
	09:32:15	572.25	882	Detector bias heater on at level 1
	09:35:59	575.98	892	SWICS on at level 3
	09:39:11	579.18	881	Detector bias heater off
	09:42:55	582.92	862	WFOV BB heater on at temp. 1
	09:43:27	583.45	872	MFOV BB heater on at temp. 1
	09:44:31	584.52	891	SWICS off
	09:57:51	597.85	883	Detector bias heater on at level 2
	10:01:35	601.58	893	SWICS on at level 2
	10:04:47	604.78	881	Detector bias heater off
	10:08:31	608.52	863	WFOV BB heater on at temp. 2
	10:09:03	609.05	873	MFOV BB heater on at temp. 2
	10:10:07	610.12	891	SWICS off
	10:23:27	623.45	884	Detector bias heater on at level 3
	10:27:11	627.18	894	SWICS on at level 1
	10:29:19	629.32	881	Detector bias heater off
	10:31:59	631.98	852	Solar port heaters off
	10:33:03	633.05	861	WFOV BB heater off
	10:33:35	633.58	871	MFOV BB heater off
	10:34:07	634.12	851	Solar port heaters on
	10:34:39	634.65	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
04/25/90	10:37:19	637.32	419	Address azimuth position A
	10:37:51	637.85	208	Data command, high byte

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
04/25/90	10:38:23	638.38	149	Data command, low byte
End azimuth angle load commands (A = 159.08°).				
04/25/90	11:16:15	676.25	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
04/25/90	12:17:03	737.05	419	Address azimuth position A
	12:17:35	737.58	208	Data command, high byte
	12:18:07	738.12	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
04/25/90	12:19:43	739.72	822	Elevate to solar ports (Sun)
	12:20:47	740.78	883	Detector bias heater on at level 2
	12:30:55	750.92	831	SMA shutter cycle on
	12:58:07	778.12	832	SMA shutter cycle off
	12:58:39	778.65	881	Detector bias heater off
	13:17:51	797.85	882	Detector bias heater on at level 1
	13:20:31	800.52	881	Detector bias heater off
	13:21:03	801.05	883	Detector bias heater on at level 2
	13:23:43	803.72	881	Detector bias heater off
	13:24:15	804.25	884	Detector bias heater on at level 3
	13:26:55	806.92	881	Detector bias heater off
	13:27:27	807.45	852	Solar port heaters off
	13:43:27	823.45	851	Solar port heaters on
	13:43:59	823.98	821	Elevate to internal source (stow)
	15:27:27	927.45	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
04/25/90	16:21:51	981.85	882	Detector bias heater on at level 1

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
04/25/90	16:24:31	984.52	881	Detector bias heater off
	16:25:03	985.05	883	Detector bias heater on at level 2
	16:27:43	987.72	881	Detector bias heater off
	16:28:15	988.25	884	Detector bias heater on at level 3
	16:30:55	990.92	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
05/02/90	06:28:15	388.25	882	Detector bias heater on at level 1
	06:30:55	390.92	881	Detector bias heater off
	06:31:27	391.45	883	Detector bias heater on at level 2
	06:34:07	394.12	881	Detector bias heater off
	06:34:39	394.65	884	Detector bias heater on at level 3
	06:37:19	397.32	881	Detector bias heater off
	08:02:39	482.65	821	Elevate to internal source (stow)
	08:18:39	498.65	862	WFOV BB heater on at temp. 1
	08:34:39	514.65	872	MFOV BB heater on at temp. 1
	09:45:35	585.58	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
05/02/90	09:46:39	586.65	881	Detector bias heater off
	09:47:11	587.18	852	Solar port heaters off
	09:47:43	587.72	821	Elevate to internal source (stow)
	09:48:15	588.25	851	Solar port heaters on
	09:50:23	590.38	882	Detector bias heater on at level 1
	09:54:07	594.12	892	SWICS on at level 3
	09:57:19	597.32	881	Detector bias heater off
	10:01:03	601.05	862	WFOV BB heater on at temp. 1

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
05/02/90	10:01:35	601.58	872	MFOV BB heater on at temp. 1
	10:02:39	602.65	891	SWICS off
	10:15:59	615.98	883	Detector bias heater on at level 2
	10:19:43	619.72	893	SWICS on at level 2
	10:22:55	622.92	881	Detector bias heater off
	10:26:39	626.65	863	WFOV BB heater on at temp. 2
	10:27:11	627.18	873	MFOV BB heater on at temp. 2
	10:28:15	628.25	891	SWICS off
	10:41:35	641.58	884	Detector bias heater on at level 3
	10:45:19	645.32	894	SWICS on at level 1
	10:47:27	647.45	881	Detector bias heater off
	10:50:07	650.12	852	Solar port heaters off
	10:51:11	651.18	861	WFOV BB heater off
	10:51:43	651.72	871	MFOV BB heater off
	10:52:15	652.25	851	Solar port heaters on
	10:52:47	652.78	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
05/02/90	10:55:27	655.45	419	Address azimuth position A
	10:55:59	655.98	208	Data command, high byte
	10:56:31	656.52	12D	Data command, low byte
End azimuth angle load commands (A = 156.98°).				
05/02/90	11:34:23	694.38	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
05/02/90	12:35:11	755.18	419	Address azimuth position A
	12:35:43	755.72	208	Data command, high byte

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
05/02/90	12:36:15	756.25	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
05/02/90	12:37:51	757.85	822	Elevate to solar ports (Sun)
	12:38:55	758.92	883	Detector bias heater on at level 2
	12:49:03	769.05	831	SMA shutter cycle on
	13:16:15	796.25	832	SMA shutter cycle off
	13:16:47	796.78	881	Detector bias heater off
	13:35:59	815.98	882	Detector bias heater on at level 1
	13:38:39	818.65	881	Detector bias heater off
	13:39:11	819.18	883	Detector bias heater on at level 2
	13:41:51	821.85	881	Detector bias heater off
	13:42:23	822.38	884	Detector bias heater on at level 3
	13:45:03	825.05	881	Detector bias heater off
	13:45:35	825.58	852	Solar port heaters off
	14:01:35	841.58	851	Solar port heaters on
	14:02:07	842.12	821	Elevate to internal source (stow)
	15:45:35	945.58	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
05/02/90	16:39:59	999.98	882	Detector bias heater on at level 1
	16:42:39	1002.65	881	Detector bias heater off
	16:43:11	1003.18	883	Detector bias heater on at level 2
	16:45:51	1005.85	881	Detector bias heater off
	16:46:23	1006.38	884	Detector bias heater on at level 3
	16:49:03	1009.05	881	Detector bias heater off
End postcalibration sequence.				

Table 7. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
Begin preinternal calibration sequence.				
05/09/90	06:46:23	406.38	882	Detector bias heater on at level 1
	06:49:03	409.05	881	Detector bias heater off
	06:49:35	409.58	883	Detector bias heater on at level 2
	06:52:15	412.25	881	Detector bias heater off
	06:52:47	412.78	884	Detector bias heater on at level 3
	06:55:27	415.45	881	Detector bias heater off
	08:20:47	500.78	821	Elevate to internal source (stow)
	08:36:47	516.78	862	WFOV BB heater on at temp. 1
	08:52:47	532.78	872	MFOV BB heater on at temp. 1
	10:03:43	603.72	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
05/09/90	10:04:47	604.78	881	Detector bias heater off
	10:05:19	605.32	852	Solar port heaters off
	10:05:51	605.85	821	Elevate to internal source (stow)
	10:06:23	606.38	851	Solar port heaters on
	10:08:31	608.52	882	Detector bias heater on at level 1
	10:12:15	612.25	892	SWICS on at level 3
	10:15:27	615.45	881	Detector bias heater off
	10:19:11	619.18	862	WFOV BB heater on at temp. 1
	10:19:43	619.72	872	MFOV BB heater on at temp. 1
	10:20:47	620.78	891	SWICS off
	10:34:07	634.12	883	Detector bias heater on at level 2
	10:37:51	637.85	893	SWICS on at level 2
	10:41:03	641.05	881	Detector bias heater off

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Table 7. Continued

Date	Universal time hr:min:sec	Universal time Minutes of day	Hex command	Event description
05/09/90	10:44:47	644.78	863	WFOV BB heater on at temp. 2
	10:45:19	645.32	873	MFOV BB heater on at temp. 2
	10:46:23	646.38	891	SWICS off
	10:59:43	659.72	884	Detector bias heater on at level 3
	11:03:27	663.45	894	SWICS on at level 1
	11:05:35	665.58	881	Detector bias heater off
	11:08:15	668.25	852	Solar port heaters off
	11:09:19	669.32	861	WFOV BB heater off
	11:09:51	669.85	871	MFOV BB heater off
	11:10:23	670.38	851	Solar port heaters on
	11:10:55	670.92	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.
05/09/90	11:13:35	673.58	419	Address azimuth position A
	11:14:07	674.12	208	Data command, high byte
	11:14:39	674.65	112	Data command, low byte
End azimuth angle load commands (A = 154.95°).
05/09/90	11:52:31	712.52	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.
05/09/90	12:53:19	773.32	419	Address azimuth position A
	12:53:51	773.85	208	Data command, high byte
	12:54:23	774.38	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.
05/09/90	12:55:59	775.98	822	Elevate to solar ports (Sun)
	12:57:03	777.05	883	Detector bias heater on at level 2
	13:07:11	787.18	831	SMA shutter cycle on

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
05/09/90	13:34:23	814.38	832	SMA shutter cycle off
	13:34:55	814.92	881	Detector bias heater off
	13:54:07	834.12	882	Detector bias heater on at level 1
	13:56:47	836.78	881	Detector bias heater off
	13:57:19	837.32	883	Detector bias heater on at level 2
	13:59:59	839.98	881	Detector bias heater off
	14:00:31	840.52	884	Detector bias heater on at level 3
	14:03:11	843.18	881	Detector bias heater off
	14:03:43	843.72	852	Solar port heaters off
	14:19:43	859.72	851	Solar port heaters on
	14:20:15	860.25	821	Elevate to internal source (stow)
	16:03:43	963.72	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
05/09/90	16:58:07	1018.12	882	Detector bias heater on at level 1
	17:02:23	1022.38	883	Detector bias heater on at level 2
	17:03:59	1023.98	881	Detector bias heater off
	17:04:31	1024.52	884	Detector bias heater on at level 3
	17:07:11	1027.18	881	Detector bias heater off
Partially obscured by data dropout. End postcalibration sequence. Begin preinternal calibration sequence.				
05/16/90	07:03:59	423.98	882	Detector bias heater on at level 1
	07:06:39	426.65	881	Detector bias heater off
	07:07:11	427.18	883	Detector bias heater on at level 2
	07:09:51	429.85	881	Detector bias heater off
	07:10:23	430.38	884	Detector bias heater on at level 3

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Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
05/16/90	07:13:03	433.05	881	Detector bias heater off
	08:38:23	518.38	821	Elevate to internal source (stow)
	08:54:23	534.38	862	WFOV BB heater on at temp. 1
	09:10:23	550.38	872	MFOV BB heater on at temp. 1
	10:21:19	621.32	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
05/16/90	10:22:23	622.38	881	Detector bias heater off
	10:22:55	622.92	852	Solar port heaters off
	10:23:27	623.45	821	Elevate to internal source (stow)
	10:23:59	623.98	851	Solar port heaters on
	10:26:07	626.12	882	Detector bias heater on at level 1
	10:29:51	629.85	892	SWICS on at level 3
	10:33:03	633.05	881	Detector bias heater off
	10:36:47	636.78	862	WFOV BB heater on at temp. 1
	10:37:19	637.32	872	MFOV BB heater on at temp. 1
	10:38:23	638.38	891	SWICS off
	10:51:43	651.72	883	Detector bias heater on at level 2
	10:55:27	655.45	893	SWICS on at level 2
	10:58:39	658.65	881	Detector bias heater off
	11:02:23	662.38	863	WFOV BB heater on at temp. 2
	11:02:55	662.92	873	MFOV BB heater on at temp. 2
	11:03:59	663.98	891	SWICS off
	11:17:19	677.32	884	Detector bias heater on at level 3
	11:21:03	681.05	894	SWICS on at level 1
	11:23:11	683.18	881	Detector bias heater off

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
05/16/90	11:25:51	685.85	852	Solar port heaters off
	11:26:55	686.92	861	WFOV BB heater off
	11:27:27	687.45	871	MFOV BB heater off
	11:27:59	687.98	851	Solar port heaters on
	11:28:31	688.52	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
05/16/90	11:31:11	691.18	419	Address azimuth position A
	11:31:43	691.72	207	Data command, high byte
	11:32:15	692.25	1FA	Data command, low byte
End azimuth angle load commands (A = 153.15°).				
05/16/90	12:10:07	730.12	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
05/16/90	13:10:55	790.92	419	Address azimuth position A
	13:11:27	791.45	208	Data command, high byte
	13:11:59	791.98	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
05/16/90	13:13:35	793.58	822	Elevate to solar ports (Sun)
	13:14:39	794.65	883	Detector bias heater on at level 2
	13:24:47	804.78	831	SMA shutter cycle on
	13:51:59	831.98	832	SMA shutter cycle off
	13:52:31	832.52	881	Detector bias heater off
	14:11:43	851.72	882	Detector bias heater on at level 1
	14:14:23	854.38	881	Detector bias heater off
	14:14:55	854.92	883	Detector bias heater on at level 2
	14:17:35	857.58	881	Detector bias heater off

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
05/16/90	14:18:07	858.12	884	Detector bias heater on at level 3
	14:20:47	860.78	881	Detector bias heater off
	14:21:19	861.32	852	Solar port heaters off
	14:37:19	877.32	851	Solar port heaters on
	14:37:51	877.85	821	Elevate to internal source (stow)
	16:21:19	981.32	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
05/16/90	17:15:43	1035.72	882	Detector bias heater on at level 1
	17:18:23	1038.38	881	Detector bias heater off
	17:18:55	1038.92	883	Detector bias heater on at level 2
	17:21:35	1041.58	881	Detector bias heater off
	17:22:07	1042.12	884	Detector bias heater on at level 3
	17:24:47	1044.78	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
05/23/90	05:39:43	339.72	882	Detector bias heater on at level 1
	05:42:23	342.38	881	Detector bias heater off
	05:42:55	342.92	883	Detector bias heater on at level 2
	05:45:35	345.58	881	Detector bias heater off
	05:46:07	346.12	884	Detector bias heater on at level 3
	05:48:47	348.78	881	Detector bias heater off
	07:14:07	434.12	821	Elevate to internal source (stow)
	07:30:07	450.12	862	WFOV BB heater on at temp. 1
	07:46:07	466.12	872	MFOV BB heater on at temp. 1
	08:57:03	537.05	823	Elevate to nadir (Earth)
End preinternal calibration sequence.				

Table 7. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
Begin internal calibration sequence.				
05/23/90	08:58:07	538.12	881	Detector bias heater off
	08:58:39	538.65	852	Solar port heaters off
	08:59:11	539.18	821	Elevate to internal source (stow)
	08:59:43	539.72	851	Solar port heaters on
	09:01:51	541.85	882	Detector bias heater on at level 1
	09:05:35	545.58	892	SWICS on at level 3
	09:08:47	548.78	881	Detector bias heater off
	09:12:31	552.52	862	WFOV BB heater on at temp. 1
	09:13:03	553.05	872	MFOV BB heater on at temp. 1
	09:14:07	554.12	891	SWICS off
	09:27:27	567.45	883	Detector bias heater on at level 2
	09:31:11	571.18	893	SWICS on at level 2
	09:34:55	574.92	881	Detector bias heater off
	09:38:07	578.12	863	WFOV BB heater on at temp. 2
	09:38:39	578.65	873	MFOV BB heater on at temp. 2
	09:39:43	579.72	891	SWICS off
	09:53:03	593.05	884	Detector bias heater on at level 3
	09:56:47	596.78	894	SWICS on at level 1
	09:58:55	598.92	881	Detector bias heater off
	10:01:35	601.58	852	Solar port heaters off
	10:02:39	602.65	861	WFOV BB heater off
	10:03:11	603.18	871	MFOV BB heater off
	10:03:43	603.72	851	Solar port heaters on
	10:04:15	604.25	891	SWICS off
End internal calibration sequence.				

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
Begin azimuth angle load commands for solar calibration.				
05/23/90	10:06:55	606.92	419	Address azimuth position A
	10:07:27	607.45	207	Data command, high byte
	10:07:59	607.98	1E6	Data command, low byte
End azimuth angle load commands (A = 151.65°).				
05/23/90	10:45:51	645.85	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
05/23/90	11:46:39	706.65	419	Address azimuth position A
	11:47:11	707.18	208	Data command, high byte
	11:47:43	707.72	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
05/23/90	11:49:19	709.32	822	Elevate to solar ports (Sun)
	11:50:23	710.38	883	Detector bias heater on at level 2
	12:00:31	720.52	831	SMA shutter cycle on
	12:27:43	747.72	832	SMA shutter cycle off
	12:28:15	748.25	881	Detector bias heater off
	12:47:27	767.45	882	Detector bias heater on at level 1
	12:50:07	770.12	881	Detector bias heater off
	12:50:39	770.65	883	Detector bias heater on at level 2
	12:53:19	773.32	881	Detector bias heater off
	12:53:51	773.85	884	Detector bias heater on at level 3
	12:56:31	776.52	881	Detector bias heater off
	12:57:03	777.05	852	Solar port heaters off
	13:13:03	793.05	851	Solar port heaters on
	13:13:35	793.58	821	Elevate to internal source (stow)

Table 7. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
05/23/90	14:57:03	897.05	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
05/23/90	15:51:27	951.45	882	Detector bias heater on at level 1
	15:55:11	955.18	883	Detector bias heater on at level 2
	15:57:19	957.32	881	Detector bias heater off
	15:57:51	957.85	884	Detector bias heater on at level 3
	16:00:31	960.52	881	Detector bias heater off
Partially obscured by data dropout. End postcalibration sequence. Begin preinternal calibration sequence.				
05/30/90	05:57:53	357.88	882	Detector bias heater on at level 1
	06:00:33	360.55	881	Detector bias heater off
	06:01:05	361.08	883	Detector bias heater on at level 2
	06:03:45	363.75	881	Detector bias heater off
	06:04:17	364.28	884	Detector bias heater on at level 3
	06:06:57	366.95	881	Detector bias heater off
	07:32:17	452.28	821	Elevate to internal source (stow)
	07:48:17	468.28	862	WFOV BB heater on at temp. 1
	08:04:17	484.28	872	MFOV BB heater on at temp. 1
	09:15:13	555.22	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
05/30/90	09:16:17	556.28	881	Detector bias heater off
	09:16:49	556.82	852	Solar port heaters off
	09:17:21	557.35	821	Elevate to internal source (stow)
	09:17:53	557.88	851	Solar port heaters on
	09:20:01	560.02	882	Detector bias heater on at level 1

Table 7. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
05/30/90	09:23:45	563.75	892	SWICS on at level 3
	09:26:57	566.95	881	Detector bias heater off
	09:30:41	570.68	862	WFOV BB heater on at temp. 1
	09:31:13	571.22	872	MFOV BB heater on at temp. 1
	09:32:17	572.28	891	SWICS off
	09:45:37	585.62	883	Detector bias heater on at level 2
	09:49:21	589.35	893	SWICS on at level 2
	09:52:33	592.55	881	Detector bias heater off
	09:56:17	596.28	863	WFOV BB heater on at temp. 2
	09:56:49	596.82	873	MFOV BB heater on at temp. 2
	09:57:53	597.88	891	SWICS off
	10:11:13	611.22	884	Detector bias heater on at level 3
	10:14:57	614.95	894	SWICS on at level 1
	10:17:05	617.08	881	Detector bias heater off
	10:19:45	619.75	852	Solar port heaters off
	10:20:49	620.82	861	WFOV BB heater off
	10:21:21	621.35	871	MFOV BB heater off
	10:21:53	621.88	851	Solar port heaters on
	10:22:25	622.42	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
05/30/90	10:25:05	625.08	419	Address azimuth position A
	10:25:37	625.62	207	Data command, high byte
	10:26:09	626.15	1D5	Data command, low byte
End azimuth angle load commands (A = 150.38°).				
05/30/90	11:04:01	664.02	814	Azimuth to position A

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
Begin azimuth angle load commands for normal operational mode.				
05/30/90	12:04:49	724.82	419	Address azimuth position A
	12:05:21	725.35	208	Data command, high byte
	12:05:53	725.88	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
05/30/90	12:07:29	727.48	822	Elevate to solar ports (Sun)
	12:08:33	728.55	883	Detector bias heater on at level 2
	12:18:41	738.68	831	SMA shutter cycle on
	12:45:53	765.88	832	SMA shutter cycle off
	12:46:25	766.42	881	Detector bias heater off
	13:05:37	785.62	882	Detector bias heater on at level 1
	13:08:17	788.28	881	Detector bias heater off
	13:08:49	788.82	883	Detector bias heater on at level 2
	13:11:29	791.48	881	Detector bias heater off
	13:12:01	792.02	884	Detector bias heater on at level 3
	13:14:41	794.68	881	Detector bias heater off
	13:15:13	795.22	852	Solar port heaters off
	13:31:13	811.22	851	Solar port heaters on
	13:31:45	811.75	821	Elevate to internal source (stow)
	15:15:13	915.22	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
05/30/90	16:09:37	969.62	882	Detector bias heater on at level 1
	16:12:17	972.28	881	Detector bias heater off
	16:12:49	972.82	883	Detector bias heater on at level 2
	16:15:29	975.48	881	Detector bias heater off

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
05/30/90	16:16:01	976.02	884	Detector bias heater on at level 3
	16:18:41	978.68	881	Detector bias heater off
End postcalibration sequence. Begin solar measurement.				
06/01/90	11:54:09	714.15	831	SMA shutter cycle on
	15:34:25	934.42	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
06/04/90	13:00:17	780.28	831	SMA shutter cycle on
	16:40:33	1000.55	832	SMA shutter cycle off
End solar measurement. Begin preinternal calibration sequence.				
06/06/90	06:15:29	375.48	882	Detector bias heater on at level 1
	06:18:09	378.15	881	Detector bias heater off
	06:18:41	378.68	883	Detector bias heater on at level 2
	06:21:21	381.35	881	Detector bias heater off
	06:21:53	381.88	884	Detector bias heater on at level 3
	06:24:33	384.55	881	Detector bias heater off
	07:49:53	469.88	821	Elevate to internal source (stow)
	08:05:53	485.88	862	WFOV BB heater on at temp. 1
	08:21:53	501.88	872	MFOV BB heater on at temp. 1
	09:32:49	572.82	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
06/06/90	09:33:53	573.88	881	Detector bias heater off
	09:34:25	574.42	852	Solar port heaters off
	09:34:57	574.95	821	Elevate to internal source (stow)
	09:35:29	575.48	851	Solar port heaters on

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
06/06/90	09:37:37	577.62	882	Detector bias heater on at level 1
	09:41:21	581.35	892	SWICS on at level 3
	09:44:33	584.55	881	Detector bias heater off
	09:48:17	588.28	862	WFOV BB heater on at temp. 1
	09:48:49	588.82	872	MFOV BB heater on at temp. 1
	09:49:53	589.88	891	SWICS off
	10:03:13	603.22	883	Detector bias heater on at level 2
	10:06:57	606.95	893	SWICS on at level 2
	10:10:09	610.15	881	Detector bias heater off
	10:13:53	613.88	863	WFOV BB heater on at temp. 2
	10:14:25	614.42	873	MFOV BB heater on at temp. 2
	10:15:29	615.48	891	SWICS off
	10:28:49	628.82	884	Detector bias heater on at level 3
	10:32:33	632.55	894	SWICS on at level 1
	10:34:41	634.68	881	Detector bias heater off
	10:37:21	637.35	852	Solar port heaters off
	10:38:25	638.42	861	WFOV BB heater off
	10:38:57	638.95	871	MFOV BB heater off
	10:39:29	639.48	851	Solar port heaters on
	10:40:01	640.02	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
06/06/90	10:42:41	642.68	419	Address azimuth position A
	10:43:13	643.22	207	Data command, high byte
	10:43:45	643.75	1C9	Data command, low byte
End azimuth angle load commands (A = 149.48°).				

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Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
06/06/90	11:21:37	681.62	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
06/06/90	12:22:25	742.42	419	Address azimuth position A
	12:22:57	742.95	208	Data command, high byte
	12:23:29	743.48	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
06/06/90	12:25:05	745.08	822	Elevate to solar ports (Sun)
	12:26:09	746.15	883	Detector bias heater on at level 2
	12:36:17	756.28	831	SMA shutter cycle on
	13:03:29	783.48	832	SMA shutter cycle off
	13:04:01	784.02	881	Detector bias heater off
	13:23:13	803.22	882	Detector bias heater on at level 1
	13:25:53	805.88	881	Detector bias heater off
	13:26:25	806.42	883	Detector bias heater on at level 2
	13:29:05	809.08	881	Detector bias heater off
	13:29:37	809.62	884	Detector bias heater on at level 3
	13:32:17	812.28	881	Detector bias heater off
	13:32:49	812.82	852	Solar port heaters off
	13:48:49	828.82	851	Solar port heaters on
	13:49:21	829.35	821	Elevate to internal source (stow)
	15:32:49	932.82	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
06/06/90	16:27:13	987.22	882	Detector bias heater on at level 1
	16:29:53	989.88	881	Detector bias heater off
	16:30:25	990.42	883	Detector bias heater on at level 2

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
06/06/90	16:33:05	993.08	881	Detector bias heater off
	16:33:37	993.62	884	Detector bias heater on at level 3
	16:36:17	996.28	881	Detector bias heater off
End postcalibration sequence. Begin solar measurement.				
06/08/90	12:12:17	732.28	831	SMA shutter cycle on
	15:52:33	952.55	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
06/11/90	13:17:53	797.88	831	SMA shutter cycle on
	16:58:09	1018.15	832	SMA shutter cycle off
End solar measurement. Begin preinternal calibration sequence.				
06/13/90	06:33:05	393.08	882	Detector bias heater on at level 1
	06:35:45	395.75	881	Detector bias heater off
	06:36:17	396.28	883	Detector bias heater on at level 2
	06:38:57	398.95	881	Detector bias heater off
	06:39:29	399.48	884	Detector bias heater on at level 3
	06:42:09	402.15	881	Detector bias heater off
	08:07:29	487.48	821	Elevate to internal source (stow)
	08:23:29	503.48	862	WFOV BB heater on at temp. 1
	08:39:29	519.48	872	MFOV BB heater on at temp. 1
	09:50:25	590.42	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
06/13/90	09:51:29	591.48	881	Detector bias heater off
	09:52:01	592.02	852	Solar port heaters off
	09:52:33	592.55	821	Elevate to internal source (stow)

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
06/13/90	09:53:05	593.08	851	Solar port heaters on
	09:55:13	595.22	882	Detector bias heater on at level 1
	09:58:57	598.95	892	SWICS on at level 3
	10:02:09	602.15	881	Detector bias heater off
	10:05:53	605.88	862	WFOV BB heater on at temp. 1
	10:06:25	606.42	872	MFOV BB heater on at temp. 1
	10:07:29	607.48	891	SWICS off
	10:20:49	620.82	883	Detector bias heater on at level 2
	10:24:33	624.55	893	SWICS on at level 2
	10:27:45	627.75	881	Detector bias heater off
	10:31:29	631.48	863	WFOV BB heater on at temp. 2
	10:32:01	632.02	873	MFOV BB heater on at temp. 2
	10:33:05	633.08	891	SWICS off
	10:46:25	646.42	884	Detector bias heater on at level 3
	10:50:09	650.15	894	SWICS on at level 1
	10:52:17	652.28	881	Detector bias heater off
	10:54:57	654.95	852	Solar port heaters off
	10:56:01	656.02	861	WFOV BB heater off
	10:56:33	656.55	871	MFOV BB heater off
	10:57:05	657.08	851	Solar port heaters on
	10:57:37	657.62	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
06/13/90	11:00:17	660.28	419	Address azimuth position A
	11:00:49	660.82	207	Data command, high byte
	11:01:21	661.35	1C1	Data command, low byte

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
End azimuth angle load commands (A = 148.88°).				
06/13/90	12:29:53	749.88	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
06/13/90	12:40:01	760.02	419	Address azimuth position A
	12:40:33	760.55	208	Data command, high byte
	12:41:05	761.08	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
06/13/90	12:42:41	762.68	822	Elevate to solar ports (Sun)
	12:43:45	763.75	883	Detector bias heater on at level 2
	12:53:53	773.88	831	SMA shutter cycle on
	13:21:05	801.08	832	SMA shutter cycle off
	13:21:37	801.62	881	Detector bias heater off
	13:40:49	820.82	882	Detector bias heater on at level 1
	13:43:29	823.48	881	Detector bias heater off
	13:44:01	824.02	883	Detector bias heater on at level 2
	13:46:41	826.68	881	Detector bias heater off
	13:47:13	827.22	884	Detector bias heater on at level 3
	13:49:53	829.88	881	Detector bias heater off
	13:50:25	830.42	852	Solar port heaters off
	14:06:25	846.42	851	Solar port heaters on
	14:06:57	846.95	821	Elevate to internal source (stow)
	15:50:25	950.42	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
06/13/90	16:44:49	1004.82	882	Detector bias heater on at level 1
	16:47:29	1007.48	881	Detector bias heater off

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
06/13/90	16:48:01	1008.02	883	Detector bias heater on at level 2
	16:50:41	1010.68	881	Detector bias heater off
	16:51:13	1011.22	884	Detector bias heater on at level 3
	16:53:53	1013.88	881	Detector bias heater off
End postcalibration sequence.				
06/15/90 - solar measurement day; however, commands unavailable because level 0 data corrupted during storage.				
Begin solar measurement.				
06/18/90	11:53:37	713.62	831	SMA shutter cycle on
	15:33:53	933.88	832	SMA shutter cycle off
End solar measurement. Begin preinternal calibration sequence.				
06/20/90	06:50:41	410.68	882	Detector bias heater on at level 1
	06:53:21	413.35	881	Detector bias heater off
	06:53:53	413.88	883	Detector bias heater on at level 2
	06:56:33	416.55	881	Detector bias heater off
	06:57:05	417.08	884	Detector bias heater on at level 3
	06:59:45	419.75	881	Detector bias heater off
	08:25:05	505.08	821	Elevate to internal source (stow)
	08:41:05	521.08	862	WFOV BB heater on at temp. 1
	08:57:05	537.08	872	MFOV BB heater on at temp. 1
	10:08:01	608.02	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
06/20/90	10:09:05	609.08	881	Detector bias heater off
	10:09:37	609.62	852	Solar port heaters off
	10:10:09	610.15	821	Elevate to internal source (stow)

Table 7. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
06/20/90	10:10:41	610.68	851	Solar port heaters on
	10:12:49	612.82	882	Detector bias heater on at level 1
	10:16:33	616.55	892	SWICS on at level 3
	10:19:45	619.75	881	Detector bias heater off
	10:23:29	623.48	862	WFOV BB heater on at temp. 1
	10:24:01	624.02	872	MFOV BB heater on at temp. 1
	10:25:05	625.08	891	SWICS off
	10:38:25	638.42	883	Detector bias heater on at level 2
	10:42:09	642.15	893	SWICS on at level 2
	10:45:21	645.35	881	Detector bias heater off
	10:49:05	649.08	863	WFOV BB heater on at temp. 2
	10:49:37	649.62	873	MFOV BB heater on at temp. 2
	10:50:41	650.68	891	SWICS off
	11:04:01	664.02	884	Detector bias heater on at level 3
	11:07:45	667.75	894	SWICS on at level 1
	11:09:53	669.88	881	Detector bias heater off
	11:12:33	672.55	852	Solar port heaters off
	11:13:37	673.62	861	WFOV BB heater off
	11:14:09	674.15	871	MFOV BB heater off
	11:14:41	674.68	851	Solar port heaters on
	11:15:13	675.22	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
06/20/90	11:17:53	677.88	419	Address azimuth position A
	11:18:25	678.42	207	Data command, high byte
	11:18:57	678.95	1BD	Data command, low byte

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
End azimuth angle load commands (A = 148.58°).				
06/20/90	11:56:49	716.82	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
06/20/90	12:57:37	777.62	419	Address azimuth position A
	12:58:09	778.15	208	Data command, high byte
	12:58:41	778.68	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
06/20/90	13:00:17	780.28	822	Elevate to solar ports (Sun)
	13:01:21	781.35	883	Detector bias heater on at level 2
	13:11:29	791.48	831	SMA shutter cycle on
	13:38:41	818.68	832	SMA shutter cycle off
	13:39:13	819.22	881	Detector bias heater off
	13:58:25	838.42	882	Detector bias heater on at level 1
	14:01:05	841.08	881	Detector bias heater off
	14:01:37	841.62	883	Detector bias heater on at level 2
	14:04:17	844.28	881	Detector bias heater off
	14:04:49	844.82	884	Detector bias heater on at level 3
	14:07:29	847.48	881	Detector bias heater off
	14:08:01	848.02	852	Solar port heaters off
	14:24:01	864.02	851	Solar port heaters on
	14:24:33	864.55	821	Elevate to internal source (stow)
	16:08:01	968.02	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
06/20/90	17:02:25	1022.42	882	Detector bias heater on at level 1

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
06/20/90	17:05:05	1025.08	881	Detector bias heater off
	17:05:37	1025.62	883	Detector bias heater on at level 2
	17:08:17	1028.28	881	Detector bias heater off
	17:08:49	1028.82	884	Detector bias heater on at level 3
	17:11:29	1031.48	881	Detector bias heater off
End postcalibration sequence. Begin solar measurement.				
06/22/90	12:47:29	767.48	831	SMA shutter cycle on
	16:27:45	987.75	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
06/25/90	12:11:13	731.22	831	SMA shutter cycle on
	15:51:29	951.48	832	SMA shutter cycle off
End solar measurement. Begin preinternal calibration sequence.				
06/27/90	05:26:25	326.42	882	Detector bias heater on at level 1
	05:29:05	329.08	881	Detector bias heater off
	05:29:37	329.62	883	Detector bias heater on at level 2
	05:32:17	332.28	881	Detector bias heater off
	05:32:49	332.82	884	Detector bias heater on at level 3
	05:35:29	335.48	881	Detector bias heater off
	07:00:49	420.82	821	Elevate to internal source (stow)
	07:16:49	436.82	862	WFOV BB heater on at temp. 1
	07:32:49	452.82	872	MFOV BB heater on at temp. 1
	08:43:45	523.75	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
06/27/90	08:44:49	524.82	881	Detector bias heater off

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
06/27/90	08:45:21	525.35	852	Solar port heaters off
	08:45:53	525.88	821	Elevate to internal source (stow)
	08:46:25	526.42	851	Solar port heaters on
	08:48:33	528.55	882	Detector bias heater on at level 1
	08:52:17	532.28	892	SWICS on at level 3
	08:55:29	535.48	881	Detector bias heater off
	08:59:13	539.22	862	WFOV BB heater on at temp. 1
	08:59:45	539.75	872	MFOV BB heater on at temp. 1
	09:00:49	540.82	891	SWICS off
	09:14:09	554.15	883	Detector bias heater on at level 2
	09:17:53	557.88	893	SWICS on at level 2
	09:21:05	561.08	881	Detector bias heater off
	09:24:49	564.82	863	WFOV BB heater on at temp. 2
	09:25:21	565.35	873	MFOV BB heater on at temp. 2
	09:26:25	566.42	891	SWICS off
	09:39:45	579.75	884	Detector bias heater on at level 3
	09:43:29	583.48	894	SWICS on at level 1
	09:45:37	585.62	881	Detector bias heater off
	09:48:17	588.28	852	Solar port heaters off
	09:49:21	589.35	861	WFOV BB heater off
	09:49:53	589.88	871	MFOV BB heater off
	09:50:25	590.42	851	Solar port heaters on
	09:50:57	590.95	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
06/27/90	09:53:37	593.62	419	Address azimuth position A

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
06/27/90	09:54:09	594.15	207	Data command, high byte
	09:54:41	594.68	1BF	Data command, low byte
End azimuth angle load commands (A = 148.73°).				
06/27/90	10:32:33	632.55	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
06/27/90	11:33:21	693.35	419	Address azimuth position A
	11:33:53	693.88	208	Data command, high byte
	11:34:25	694.42	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
06/27/90	11:36:01	696.02	822	Elevate to solar ports (Sun)
	11:37:05	697.08	883	Detector bias heater on at level 2
	11:47:13	707.22	831	SMA shutter cycle on
	12:14:25	734.42	832	SMA shutter cycle off
	12:14:57	734.95	881	Detector bias heater off
	12:34:09	754.15	882	Detector bias heater on at level 1
	12:36:49	756.82	881	Detector bias heater off
	12:37:21	757.35	883	Detector bias heater on at level 2
	12:40:01	760.02	881	Detector bias heater off
	12:40:33	760.55	884	Detector bias heater on at level 3
	12:43:13	763.22	881	Detector bias heater off
	12:43:45	763.75	852	Solar port heaters off
	12:59:45	779.75	851	Solar port heaters on
	13:00:17	780.28	821	Elevate to internal source (stow)
	14:43:45	883.75	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				

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Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
06/27/90	15:38:41	938.68	882	Detector bias heater on at level 1
	15:40:49	940.82	881	Detector bias heater off
	15:41:21	941.35	883	Detector bias heater on at level 2
	15:44:01	944.02	881	Detector bias heater off
	15:44:33	944.55	884	Detector bias heater on at level 3
	15:47:13	947.22	881	Detector bias heater off
End postcalibration sequence. Begin solar measurement.				
06/29/90	13:05:05	785.08	831	SMA shutter cycle on
	16:45:21	1005.35	832	SMA shutter cycle off
End solar measurement. Begin solar measurement				
07/01/90	12:13:37	733.62	812	Azimuth to 90 Degrees
	12:13:53	733.88	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
07/02/90	12:28:49	748.82	831	SMA shutter cycle on
	16:09:05	969.08	832	SMA shutter cycle off
End solar measurement. Begin preinternal calibration sequence.				
07/04/90	05:43:29	343.48	882	Detector bias heater on at level 1
	05:46:09	346.15	881	Detector bias heater off
	05:46:41	346.68	883	Detector bias heater on at level 2
	05:49:21	349.35	881	Detector bias heater off
	05:49:53	349.88	884	Detector bias heater on at level 3
	05:52:33	352.55	881	Detector bias heater off
	07:17:53	437.88	821	Elevate to internal source (stow)
	07:33:53	453.88	862	WFOV BB heater on at temp. 1

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
07/04/90	07:49:53	469.88	872	MFOV BB heater on at temp. 1
	09:00:49	540.82	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
07/04/90	09:01:53	541.88	881	Detector bias heater off
	09:02:25	542.42	852	Solar port heaters off
	09:02:57	542.95	821	Elevate to internal source (stow)
	09:03:29	543.48	851	Solar port heaters on
	09:05:37	545.62	882	Detector bias heater on at level 1
	09:09:21	549.35	892	SWICS on at level 3
	09:12:33	552.55	881	Detector bias heater off
	09:16:17	556.28	862	WFOV BB heater on at temp. 1
	09:16:49	556.82	872	MFOV BB heater on at temp. 1
	09:17:53	557.88	891	SWICS off
	09:31:13	571.22	883	Detector bias heater on at level 2
	09:34:57	574.95	893	SWICS on at level 2
	09:38:09	578.15	881	Detector bias heater off
	09:41:53	581.88	863	WFOV BB heater on at temp. 2
	09:42:25	582.42	873	MFOV BB heater on at temp. 2
	09:43:29	583.48	891	SWICS off
	09:56:49	596.82	884	Detector bias heater on at level 3
	10:00:33	600.55	894	SWICS on at level 1
	10:02:41	602.68	881	Detector bias heater off
	10:05:21	605.35	852	Solar port heaters off
	10:06:25	606.42	861	WFOV BB heater off
	10:06:57	606.95	871	MFOV BB heater off

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
07/04/90	10:07:29	607.48	851	Solar port heaters on
	10:08:01	608.02	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.
07/04/90	10:10:41	610.68	419	Address azimuth position A
	10:11:13	611.22	207	Data command, high byte
	10:11:45	611.75	1C5	Data command, low byte
End azimuth angle load commands (A = 149.18°).
07/04/90	10:49:37	649.62	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.
07/04/90	11:50:25	710.42	419	Address azimuth position A
	11:50:57	710.95	208	Data command, high byte
	11:51:29	711.48	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.
07/04/90	11:53:05	713.08	822	Elevate to solar ports (Sun)
	11:54:09	714.15	883	Detector bias heater on at level 2
	12:04:17	724.28	831	SMA shutter cycle on
	12:31:29	751.48	832	SMA shutter cycle off
	12:32:01	752.02	881	Detector bias heater off
	13:30:09	810.15	821	Elevate to internal source (stow)
	15:00:49	900.82	823	Elevate to nadir (Earth)
Third sequence missing by fill data. End solar calibration sequence. Begin postcalibration sequence.
07/04/90	15:55:13	955.22	882	Detector bias heater on at level 1
	15:57:53	957.88	881	Detector bias heater off
	15:58:25	958.42	883	Detector bias heater on at level 2

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
07/04/90	16:01:05	961.08	881	Detector bias heater off
	16:01:37	961.62	884	Detector bias heater on at level 3
	16:04:17	964.28	881	Detector bias heater off
End postcalibration sequence. Begin solar measurement.				
07/09/90	12:45:53	765.88	831	SMA shutter cycle on
	16:26:09	986.15	832	SMA shutter cycle off
End solar measurement. Begin preinternal calibration sequence.				
07/11/90	06:01:06	361.10	882	Detector bias heater on at level 1
	06:03:46	363.77	881	Detector bias heater off
	06:04:18	364.30	883	Detector bias heater on at level 2
	06:06:58	366.97	881	Detector bias heater off
	06:07:30	367.50	884	Detector bias heater on at level 3
	06:10:10	370.17	881	Detector bias heater off
	07:35:30	455.50	821	Elevate to internal source (stow)
	07:51:30	471.50	862	WFOV BB heater on at temp. 1
	08:07:30	487.50	872	MFOV BB heater on at temp. 1
	09:18:26	558.43	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
07/11/90	09:19:30	559.50	881	Detector bias heater off
	09:20:02	560.03	852	Solar port heaters off
	09:20:34	560.57	821	Elevate to internal source (stow)
	09:21:06	561.10	851	Solar port heaters on
	09:23:14	563.23	882	Detector bias heater on at level 1
	09:26:58	566.97	892	SWICS on at level 3

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Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
07/11/90	09:30:10	570.17	881	Detector bias heater off
	09:33:54	573.90	862	WFOV BB heater on at temp. 1
	09:34:26	574.43	872	MFOV BB heater on at temp. 1
	09:35:30	575.50	891	SWICS off
	09:48:50	588.83	883	Detector bias heater on at level 2
	09:52:34	592.57	893	SWICS on at level 2
	09:55:46	595.77	881	Detector bias heater off
	09:59:30	599.50	863	WFOV BB heater on at temp. 2
	10:00:02	600.03	873	MFOV BB heater on at temp. 2
	10:01:06	601.10	891	SWICS off
	10:14:26	614.43	884	Detector bias heater on at level 3
	10:18:10	618.17	894	SWICS on at level 1
	10:20:18	620.30	881	Detector bias heater off
	10:22:58	622.97	852	Solar port heaters off
	10:24:02	624.03	861	WFOV BB heater off
	10:24:34	624.57	871	MFOV BB heater off
	10:25:06	625.10	851	Solar port heaters on
	10:25:38	625.63	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
07/11/90	10:28:18	628.30	419	Address azimuth position A
	10:28:50	628.83	207	Data command, high byte
	10:29:22	629.37	1CF	Data command, low byte
End azimuth angle load commands (A = 149.93°). Begin solar calibration sequence.				
07/11/90	12:28:50	748.83	831	SMA shutter cycle on
	12:49:06	769.10	832	SMA shutter cycle off

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
07/11/90	12:49:38	769.63	881	Detector bias heater off
	13:08:50	788.83	882	Detector bias heater on at level 1
	13:11:30	791.50	881	Detector bias heater off
	13:12:02	792.03	883	Detector bias heater on at level 2
	13:14:42	794.70	881	Detector bias heater off
	13:15:14	795.23	884	Detector bias heater on at level 3
	13:17:54	797.90	881	Detector bias heater off
	13:18:26	798.43	852	Solar port heaters off
	13:34:26	814.43	851	Solar port heaters on
	13:34:58	814.97	821	Elevate to internal source (stow)
	15:18:26	918.43	823	Elevate to nadir (Earth)
Some commands obscured by data dropout. End solar calibration sequence. Begin postcalibration sequence.				
07/11/90	16:12:50	972.83	882	Detector bias heater on at level 1
	16:16:02	976.03	883	Detector bias heater on at level 2
	16:18:42	978.70	881	Detector bias heater off
	16:19:14	979.23	884	Detector bias heater on at level 3
	16:21:54	981.90	881	Detector bias heater off
Partially obscured by data dropout. End postcalibration sequence. Begin solar measurement.				
07/13/90	11:57:54	717.90	831	SMA shutter cycle on
	15:38:10	938.17	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
07/16/90	13:16:18	796.30	831	SMA shutter cycle on
	16:43:46	1003.77	832	SMA shutter cycle off

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
End solar measurement. Begin preinternal calibration sequence.
07/18/90	06:18:42	378.70	882	Detector bias heater on at level 1
	06:21:22	381.37	881	Detector bias heater off
	06:21:54	381.90	883	Detector bias heater on at level 2
	06:24:34	384.57	881	Detector bias heater off
	06:25:06	385.10	884	Detector bias heater on at level 3
	06:27:46	387.77	881	Detector bias heater off
	07:53:06	473.10	821	Elevate to internal source (stow)
	08:09:06	489.10	862	WFOV BB heater on at temp. 1
	08:25:06	505.10	872	MFOV BB heater on at temp. 1
	09:36:02	576.03	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.
07/18/90	09:37:06	577.10	881	Detector bias heater off
	09:37:38	577.63	852	Solar port heaters off
	09:38:10	578.17	821	Elevate to internal source (stow)
	09:38:42	578.70	851	Solar port heaters on
	09:40:50	580.83	882	Detector bias heater on at level 1
	09:44:34	584.57	892	SWICS on at level 3
	09:47:46	587.77	881	Detector bias heater off
	09:51:30	591.50	862	WFOV BB heater on at temp. 1
	09:52:02	592.03	872	MFOV BB heater on at temp. 1
	09:53:06	593.10	891	SWICS off
	10:06:26	606.43	883	Detector bias heater on at level 2
	10:10:10	610.17	893	SWICS on at level 2
	10:13:22	613.37	881	Detector bias heater off

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
07/18/90	10:17:06	617.10	863	WFOV BB heater on at temp. 2
	10:17:38	617.63	873	MFOV BB heater on at temp. 2
	10:18:42	618.70	891	SWICS off
Partially obscured by data dropout. End internal calibration sequence.				
07/18/90	11:24:50	684.83	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
07/18/90	12:25:38	745.63	419	Address azimuth position A
	12:26:10	746.17	208	Data command, high byte
	12:26:42	746.70	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
07/18/90	12:28:18	748.30	822	Elevate to solar ports (Sun)
	12:29:22	749.37	883	Detector bias heater on at level 2
	12:39:30	759.50	831	SMA shutter cycle on
	13:06:42	786.70	832	SMA shutter cycle off
	13:07:14	787.23	881	Detector bias heater off
	13:26:26	806.43	882	Detector bias heater on at level 1
	13:29:06	809.10	881	Detector bias heater off
	13:29:38	809.63	883	Detector bias heater on at level 2
	13:32:18	812.30	881	Detector bias heater off
	13:32:50	812.83	884	Detector bias heater on at level 3
	13:35:30	815.50	881	Detector bias heater off
	13:36:02	816.03	852	Solar port heaters off
	13:52:02	832.03	851	Solar port heaters on
	13:52:34	832.57	821	Elevate to internal source (stow)
	15:36:02	936.03	823	Elevate to nadir (Earth)

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
End solar calibration sequence. Begin postcalibration sequence.
07/18/90	16:30:26	990.43	882	Detector bias heater on at level 1
	16:33:06	993.10	881	Detector bias heater off
	16:33:38	993.63	883	Detector bias heater on at level 2
	16:36:18	996.30	881	Detector bias heater off
	16:36:50	996.83	884	Detector bias heater on at level 3
	16:39:30	999.50	881	Detector bias heater off
End postcalibration sequence. Begin solar measurement.
07/20/90	12:15:30	735.50	831	SMA shutter cycle on
	15:55:46	955.77	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.
07/23/90	13:21:06	801.10	831	SMA shutter cycle on
	17:17:22	1037.37	832	SMA shutter cycle off
End solar measurement. Begin preinternal calibration sequence.
07/25/90	06:36:18	396.30	882	Detector bias heater on at level 1
	06:38:58	398.97	881	Detector bias heater off
	06:39:30	399.50	883	Detector bias heater on at level 2
	06:42:10	402.17	881	Detector bias heater off
	06:42:42	402.70	884	Detector bias heater on at level 3
	06:45:22	405.37	881	Detector bias heater off
	08:10:42	490.70	821	Elevate to internal source (stow)
	08:26:42	506.70	862	WFOV BB heater on at temp. 1
	08:42:42	522.70	872	MFOV BB heater on at temp. 1

Table 7. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
07/25/90	09:53:38	593.63	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
07/25/90	09:54:42	594.70	881	Detector bias heater off
	09:55:14	595.23	852	Solar port heaters off
	09:55:46	595.77	821	Elevate to internal source (stow)
	09:56:18	596.30	851	Solar port heaters on
	09:58:26	598.43	882	Detector bias heater on at level 1
	10:02:10	602.17	892	SWICS on at level 3
	10:05:22	605.37	881	Detector bias heater off
	10:09:06	609.10	862	WFOV BB heater on at temp. 1
	10:09:38	609.63	872	MFOV BB heater on at temp. 1
	10:10:42	610.70	891	SWICS off
	10:24:02	624.03	883	Detector bias heater on at level 2
	10:27:46	627.77	893	SWICS on at level 2
	10:30:58	630.97	881	Detector bias heater off
	10:34:42	634.70	863	WFOV BB heater on at temp. 2
	10:35:14	635.23	873	MFOV BB heater on at temp. 2
	10:36:18	636.30	891	SWICS off
	10:49:38	649.63	884	Detector bias heater on at level 3
	10:53:22	653.37	894	SWICS on at level 1
	10:55:30	655.50	881	Detector bias heater off
	10:58:10	658.17	852	Solar port heaters off
	10:59:14	659.23	861	WFOV BB heater off
	10:59:46	659.77	871	MFOV BB heater off
	11:00:18	660.30	851	Solar port heaters on

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
07/25/90	11:00:50	660.83	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
07/25/90	11:03:30	663.50	419	Address azimuth position A
	11:04:02	664.03	207	Data command, high byte
	11:04:34	664.57	1F3	Data command, low byte
End azimuth angle load commands (A = 152.62°).				
07/25/90	11:42:26	702.43	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
07/25/90	12:43:14	763.23	419	Address azimuth position A
	12:43:46	763.77	208	Data command, high byte
	12:44:18	764.30	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
07/25/90	12:45:54	765.90	822	Elevate to solar ports (Sun)
	12:46:58	766.97	883	Detector bias heater on at level 2
	12:57:06	777.10	831	SMA shutter cycle on
	13:24:18	804.30	832	SMA shutter cycle off
	13:24:50	804.83	881	Detector bias heater off
	13:44:02	824.03	882	Detector bias heater on at level 1
	13:46:42	826.70	881	Detector bias heater off
	13:47:14	827.23	883	Detector bias heater on at level 2
	13:49:54	829.90	881	Detector bias heater off
	13:50:26	830.43	884	Detector bias heater on at level 3
	13:53:06	833.10	881	Detector bias heater off
	13:53:38	833.63	852	Solar port heaters off
	14:09:38	849.63	851	Solar port heaters on

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
07/25/90	14:10:10	850.17	821	Elevate to internal source (stow)
	15:53:38	953.63	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
07/25/90	16:48:02	1008.03	882	Detector bias heater on at level 1
	16:50:42	1010.70	881	Detector bias heater off
	16:51:14	1011.23	883	Detector bias heater on at level 2
	16:53:54	1013.90	881	Detector bias heater off
	16:54:26	1014.43	884	Detector bias heater on at level 3
	16:57:06	1017.10	881	Detector bias heater off
End postcalibration sequence. Begin solar measurement.				
07/27/90	12:33:06	753.10	831	SMA shutter cycle on
	16:25:38	985.63	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
07/30/90	11:56:50	716.83	831	SMA shutter cycle on
	15:37:06	937.10	832	SMA shutter cycle off
End solar measurement. Begin preinternal calibration sequence.				
08/01/90	06:54:26	414.43	882	Detector bias heater on at level 1
	06:57:06	417.10	881	Detector bias heater off
	06:57:38	417.63	883	Detector bias heater on at level 2
	07:00:18	420.30	881	Detector bias heater off
	07:00:50	420.83	884	Detector bias heater on at level 3
	07:03:30	423.50	881	Detector bias heater off
	08:28:50	508.83	821	Elevate to internal source (stow)
	08:44:50	524.83	862	WFOV BB heater on at temp. 1

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
08/01/90	09:00:50	540.83	872	MFOV BB heater on at temp. 1
	10:11:46	611.77	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
08/01/90	10:12:50	612.83	881	Detector bias heater off
	10:14:26	614.43	851	Solar port heaters on
	10:16:34	616.57	882	Detector bias heater on at level 1
	10:20:18	620.30	892	SWICS on at level 3
	10:23:30	623.50	881	Detector bias heater off
	10:27:14	627.23	862	WFOV BB heater on at temp. 1
	10:27:46	627.77	872	MFOV BB heater on at temp. 1
	10:28:50	628.83	891	SWICS off
	10:42:10	642.17	883	Detector bias heater on at level 2
	10:45:54	645.90	893	SWICS on at level 2
	10:49:06	649.10	881	Detector bias heater off
	10:52:50	652.83	863	WFOV BB heater on at temp. 2
	10:53:22	653.37	873	MFOV BB heater on at temp. 2
	10:54:26	654.43	891	SWICS off
	11:07:46	667.77	884	Detector bias heater on at level 3
	11:11:30	671.50	894	SWICS on at level 1
	11:13:38	673.63	881	Detector bias heater off
	11:16:18	676.30	852	Solar port heaters off
	11:17:22	677.37	861	WFOV BB heater off
	11:17:54	677.90	871	MFOV BB heater off
	11:18:26	678.43	851	Solar port heaters on
	11:18:58	678.97	891	SWICS off

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
08/01/90	11:21:38	681.63	419	Address azimuth position A
	11:22:10	682.17	208	Data command, high byte
	11:22:42	682.70	10C	Data command, low byte
End azimuth angle load commands (A = 154.50°).				
08/01/90	12:00:34	720.57	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
08/01/90	13:01:22	781.37	419	Address azimuth position A
	13:01:54	781.90	208	Data command, high byte
	13:02:26	782.43	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
08/01/90	13:04:02	784.03	822	Elevate to solar ports (Sun)
	13:05:06	785.10	883	Detector bias heater on at level 2
	13:15:14	795.23	831	SMA shutter cycle on
	13:42:26	822.43	832	SMA shutter cycle off
	13:42:58	822.97	881	Detector bias heater off
	14:02:10	842.17	882	Detector bias heater on at level 1
	14:04:50	844.83	881	Detector bias heater off
	14:05:22	845.37	883	Detector bias heater on at level 2
	14:08:02	848.03	881	Detector bias heater off
	14:08:34	848.57	884	Detector bias heater on at level 3
	14:11:14	851.23	881	Detector bias heater off
	14:11:46	851.77	852	Solar port heaters off
	14:27:46	867.77	851	Solar port heaters on
	14:28:18	868.30	821	Elevate to internal source (stow)

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
08/01/90	16:11:46	971.77	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
08/01/90	17:06:10	1026.17	882	Detector bias heater on at level 1
	17:08:50	1028.83	881	Detector bias heater off
	17:09:22	1029.37	883	Detector bias heater on at level 2
	17:12:02	1032.03	881	Detector bias heater off
	17:12:34	1032.57	884	Detector bias heater on at level 3
	17:15:14	1035.23	881	Detector bias heater off
End postcalibration sequence. Begin solar measurement.				
08/03/90	12:51:14	771.23	831	SMA shutter cycle on
	16:31:30	991.50	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
08/06/90	12:14:58	734.97	831	SMA shutter cycle on
	15:55:14	955.23	832	SMA shutter cycle off
End solar measurement. Begin preinternal calibration sequence.				
08/08/90	06:33:06	393.10	881	Detector bias heater off
	07:04:34	424.57	821	Elevate to internal source (stow)
	07:20:34	440.57	862	WFOV BB heater on at temp. 1
	07:36:34	456.57	872	MFOV BB heater on at temp. 1
	08:47:30	527.50	823	Elevate to nadir (Earth)
First sequence missing by fill data and data dropout. End preinternal calibration sequence. Begin internal calibration sequence.				
08/08/90	08:48:34	528.57	881	Detector bias heater off

Table 7. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
08/08/90	08:49:06	529.10	852	Solar port heaters off
	08:49:38	529.63	821	Elevate to internal source (stow)
	08:50:10	530.17	851	Solar port heaters on
	08:52:18	532.30	882	Detector bias heater on at level 1
	08:56:02	536.03	892	SWICS on at level 3
	08:59:14	539.23	881	Detector bias heater off
	09:02:58	542.97	862	WFOV BB heater on at temp. 1
	09:03:30	543.50	872	MFOV BB heater on at temp. 1
	09:04:34	544.57	891	SWICS off
	09:17:54	557.90	883	Detector bias heater on at level 2
	09:21:38	561.63	893	SWICS on at level 2
	09:24:50	564.83	881	Detector bias heater off
	09:28:34	568.57	863	WFOV BB heater on at temp. 2
	09:29:06	569.10	873	MFOV BB heater on at temp. 2
	09:30:10	570.17	891	SWICS off
	09:43:30	583.50	884	Detector bias heater on at level 3
	09:47:14	587.23	894	SWICS on at level 1
	09:49:22	589.37	881	Detector bias heater off
	09:52:02	592.03	852	Solar port heaters off
	09:53:06	593.10	861	WFOV BB heater off
	09:53:38	593.63	871	MFOV BB heater off
	09:54:10	594.17	851	Solar port heaters on
	09:54:42	594.70	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
08/08/90	09:57:22	597.37	419	Address azimuth position A

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
08/08/90	09:57:54	597.90	208	Data command, high byte
	09:58:26	598.43	128	Data command, low byte
End azimuth angle load commands (A = 156.60°).				
08/08/90	10:36:18	636.30	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
08/08/90	11:37:06	697.10	419	Address azimuth position A
	11:37:38	697.63	208	Data command, high byte
	11:38:10	698.17	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
08/08/90	11:39:46	699.77	822	Elevate to solar ports (Sun)
	11:40:50	700.83	883	Detector bias heater on at level 2
	11:50:58	710.97	831	SMA shutter cycle on
	12:18:10	738.17	832	SMA shutter cycle off
	12:18:42	738.70	881	Detector bias heater off
	12:37:54	757.90	882	Detector bias heater on at level 1
	12:40:34	760.57	881	Detector bias heater off
	12:41:06	761.10	883	Detector bias heater on at level 2
	12:43:46	763.77	881	Detector bias heater off
	12:44:18	764.30	884	Detector bias heater on at level 3
	12:46:58	766.97	881	Detector bias heater off
	12:47:30	767.50	852	Solar port heaters off
	13:03:30	783.50	851	Solar port heaters on
	13:04:02	784.03	821	Elevate to internal source (stow)
	14:47:30	887.50	823	Elevate to nadir (Earth)
End solar calibration sequence.				

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
Begin postcalibration sequence.				
08/08/90	15:41:54	941.90	882	Detector bias heater on at level 1
	15:44:34	944.57	881	Detector bias heater off
	15:45:06	945.10	883	Detector bias heater on at level 2
	15:47:46	947.77	881	Detector bias heater off
	15:48:18	948.30	884	Detector bias heater on at level 3
	15:50:58	950.97	881	Detector bias heater off
End postcalibration sequence. Begin solar measurement.				
08/10/90	13:08:50	788.83	831	SMA shutter cycle on
	16:49:06	1009.10	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
08/13/90	12:33:06	753.10	831	SMA shutter cycle on
	16:13:22	973.37	832	SMA shutter cycle off
End solar measurement. Begin preinternal calibration sequence.				
08/15/90	05:48:18	348.30	882	Detector bias heater on at level 1
	05:50:58	350.97	881	Detector bias heater off
	05:51:30	351.50	883	Detector bias heater on at level 2
	05:54:10	354.17	881	Detector bias heater off
	05:54:42	354.70	884	Detector bias heater on at level 3
	05:57:22	357.37	881	Detector bias heater off
	07:22:42	442.70	821	Elevate to internal source (stow)
	07:38:42	458.70	862	WFOV BB heater on at temp. 1
	07:54:42	474.70	872	MFOV BB heater on at temp. 1
	09:05:38	545.63	823	Elevate to nadir (Earth)

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
	End preinternal calibration sequence. Begin internal calibration sequence.			
08/15/90	09:06:42	546.70	881	Detector bias heater off
	09:07:14	547.23	852	Solar port heaters off
	09:07:46	547.77	821	Elevate to internal source (stow)
	09:08:18	548.30	851	Solar port heaters on
	09:10:26	550.43	882	Detector bias heater on at level 1
	09:14:10	554.17	892	SWICS on at level 3
	09:17:22	557.37	881	Detector bias heater off
	09:21:06	561.10	862	WFOV BB heater on at temp. 1
	09:21:38	561.63	872	MFOV BB heater on at temp. 1
	09:22:42	562.70	891	SWICS off
	09:36:02	576.03	883	Detector bias heater on at level 2
	09:39:46	579.77	893	SWICS on at level 2
	09:42:58	582.97	881	Detector bias heater off
	09:46:42	586.70	863	WFOV BB heater on at temp. 2
	09:47:14	587.23	873	MFOV BB heater on at temp. 2
	09:48:18	588.30	891	SWICS off
	10:01:38	601.63	884	Detector bias heater on at level 3
	10:05:22	605.37	894	SWICS on at level 1
	10:07:30	607.50	881	Detector bias heater off
	10:10:10	610.17	852	Solar port heaters off
	10:11:14	611.23	861	WFOV BB heater off
	10:11:46	611.77	871	MFOV BB heater off
	10:12:18	612.30	851	Solar port heaters on
	10:12:50	612.83	891	SWICS off

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
08/15/90	10:15:30	615.50	419	Address azimuth position A
	10:16:02	616.03	208	Data command, high byte
	10:16:34	616.57	149	Data command, low byte
End azimuth angle load commands (A = 159.08°).				
08/15/90	10:54:26	654.43	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
08/15/90	11:55:14	715.23	419	Address azimuth position A
	11:55:46	715.77	208	Data command, high byte
	11:56:18	716.30	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
08/15/90	11:57:54	717.90	822	Elevate to solar ports (Sun)
	11:58:58	718.97	883	Detector bias heater on at level 2
	12:09:06	729.10	831	SMA shutter cycle on
	12:36:18	756.30	832	SMA shutter cycle off
	12:36:50	756.83	881	Detector bias heater off
	12:56:02	776.03	882	Detector bias heater on at level 1
	12:58:42	778.70	881	Detector bias heater off
	12:59:14	779.23	883	Detector bias heater on at level 2
	13:01:54	781.90	881	Detector bias heater off
	13:02:26	782.43	884	Detector bias heater on at level 3
	13:05:06	785.10	881	Detector bias heater off
	13:05:38	785.63	852	Solar port heaters off
	13:21:38	801.63	851	Solar port heaters on
	13:22:10	802.17	821	Elevate to internal source (stow)

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
08/15/90	15:05:38	905.63	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
08/15/90	16:00:02	960.03	882	Detector bias heater on at level 1
	16:02:42	962.70	881	Detector bias heater off
	16:03:14	963.23	883	Detector bias heater on at level 2
	16:05:54	965.90	881	Detector bias heater off
	16:06:26	966.43	884	Detector bias heater on at level 3
	16:09:06	969.10	881	Detector bias heater off
End postcalibration sequence. Begin solar measurement.				
08/17/90	11:45:06	705.10	831	SMA shutter cycle on
	15:25:22	925.37	832	SMA shutter cycle off
End solar measurement. Begin preinternal calibration sequence.				
08/22/90	06:06:27	366.45	882	Detector bias heater on at level 1
	06:09:07	369.12	881	Detector bias heater off
	06:09:39	369.65	883	Detector bias heater on at level 2
	06:12:19	372.32	881	Detector bias heater off
	06:12:51	372.85	884	Detector bias heater on at level 3
	06:15:31	375.52	881	Detector bias heater off
	07:40:51	460.85	821	Elevate to internal source (stow)
	07:56:51	476.85	862	WFOV BB heater on at temp. 1
	08:12:51	492.85	872	MFOV BB heater on at temp. 1
	09:23:47	563.78	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
08/22/90	09:24:51	564.85	881	Detector bias heater off

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
08/22/90	09:25:23	565.38	852	Solar port heaters off
	09:25:55	565.92	821	Elevate to internal source (stow)
	09:26:27	566.45	851	Solar port heaters on
	09:28:35	568.58	882	Detector bias heater on at level 1
	09:32:19	572.32	892	SWICS on at level 3
	09:35:31	575.52	881	Detector bias heater off
	09:39:15	579.25	862	WFOV BB heater on at temp. 1
	09:39:47	579.78	872	MFOV BB heater on at temp. 1
	09:40:51	580.85	891	SWICS off
	09:54:11	594.18	883	Detector bias heater on at level 2
	09:57:55	597.92	893	SWICS on at level 2
	10:01:07	601.12	881	Detector bias heater off
	10:04:51	604.85	863	WFOV BB heater on at temp. 2
	10:05:23	605.38	873	MFOV BB heater on at temp. 2
	10:06:27	606.45	891	SWICS off
	10:19:47	619.78	884	Detector bias heater on at level 3
	10:23:31	623.52	894	SWICS on at level 1
	10:25:39	625.65	881	Detector bias heater off
	10:28:19	628.32	852	Solar port heaters off
	10:29:23	629.38	861	WFOV BB heater off
	10:29:55	629.92	871	MFOV BB heater off
	10:30:27	630.45	851	Solar port heaters on
	10:30:59	630.98	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
08/22/90	10:33:39	633.65	419	Address azimuth position A

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
08/22/90	10:34:11	634.18	208	Data command, high byte
	10:34:43	634.72	16F	Data command, low byte
End azimuth angle load commands (A = 161.93°).				
08/22/90	11:12:35	672.58	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
08/22/90	12:13:23	733.38	419	Address azimuth position A
	12:13:55	733.92	208	Data command, high byte
	12:14:27	734.45	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
08/22/90	12:16:03	736.05	822	Elevate to solar ports (Sun)
	12:17:07	737.12	883	Detector bias heater on at level 2
	12:27:15	747.25	831	SMA shutter cycle on
	12:54:27	774.45	832	SMA shutter cycle off
	12:54:59	774.98	881	Detector bias heater off
	13:14:11	794.18	882	Detector bias heater on at level 1
	13:16:51	796.85	881	Detector bias heater off
	13:17:23	797.38	883	Detector bias heater on at level 2
	13:20:03	800.05	881	Detector bias heater off
	13:20:35	800.58	884	Detector bias heater on at level 3
	13:23:15	803.25	881	Detector bias heater off
	13:23:47	803.78	852	Solar port heaters off
	13:39:47	819.78	851	Solar port heaters on
	13:40:19	820.32	821	Elevate to internal source (stow)
	15:23:47	923.78	823	Elevate to nadir (Earth)
End solar calibration sequence.				

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
Begin postcalibration sequence.				
08/22/90	16:18:11	978.18	882	Detector bias heater on at level 1
	16:20:51	980.85	881	Detector bias heater off
	16:21:23	981.38	883	Detector bias heater on at level 2
	16:24:03	984.05	881	Detector bias heater off
	16:24:35	984.58	884	Detector bias heater on at level 3
	16:27:15	987.25	881	Detector bias heater off
End postcalibration sequence. Begin solar measurement.				
08/24/90	12:03:15	723.25	831	SMA shutter cycle on
	15:43:31	943.52	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
08/27/90	13:09:55	789.92	831	SMA shutter cycle on
	16:50:11	1010.18	832	SMA shutter cycle off
End solar measurement. Begin preinternal calibration sequence.				
08/29/90	06:25:07	385.12	882	Detector bias heater on at level 1
	06:27:47	387.78	881	Detector bias heater off
	06:28:19	388.32	883	Detector bias heater on at level 2
	06:30:59	390.98	881	Detector bias heater off
	06:31:31	391.52	884	Detector bias heater on at level 3
	06:34:11	394.18	881	Detector bias heater off
	07:59:31	479.52	821	Elevate to internal source (stow)
	08:15:31	495.52	862	WFOV BB heater on at temp. 1
	08:31:31	511.52	872	MFOV BB heater on at temp. 1
	09:42:27	582.45	823	Elevate to nadir (Earth)

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
End preinternal calibration sequence. Begin internal calibration sequence.				
08/29/90	09:43:31	583.52	881	Detector bias heater off
	09:44:03	584.05	852	Solar port heaters off
	09:44:35	584.58	821	Elevate to internal source (stow)
	09:45:07	585.12	851	Solar port heaters on
	09:47:15	587.25	882	Detector bias heater on at level 1
	09:50:59	590.98	892	SWICS on at level 3
	09:54:11	594.18	881	Detector bias heater off
	09:57:55	597.92	862	WFOV BB heater on at temp. 1
	09:58:27	598.45	872	MFOV BB heater on at temp. 1
	09:59:31	599.52	891	SWICS off
	10:12:51	612.85	883	Detector bias heater on at level 2
	10:16:35	616.58	893	SWICS on at level 2
	10:19:47	619.78	881	Detector bias heater off
	10:23:31	623.52	863	WFOV BB heater on at temp. 2
	10:24:03	624.05	873	MFOV BB heater on at temp. 2
	10:25:07	625.12	891	SWICS off
	10:38:27	638.45	884	Detector bias heater on at level 3
	10:42:11	642.18	894	SWICS on at level 1
	10:44:19	644.32	881	Detector bias heater off
	10:46:59	646.98	852	Solar port heaters off
	10:48:03	648.05	861	WFOV BB heater off
	10:48:35	648.58	871	MFOV BB heater off
	10:49:07	649.12	851	Solar port heaters on
	10:49:39	649.65	891	SWICS off

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
08/29/90	10:52:19	652.32	419	Address azimuth position A
	10:52:51	652.85	208	Data command, high byte
	10:53:23	653.38	199	Data command, low byte
End azimuth angle load commands (A = 165.08°).				
08/29/90	11:31:15	691.25	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
08/29/90	12:32:03	752.05	419	Address azimuth position A
	12:32:35	752.58	208	Data command, high byte
	12:33:07	753.12	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
08/29/90	12:34:43	754.72	822	Elevate to solar ports (Sun)
	12:35:47	755.78	883	Detector bias heater on at level 2
	12:45:55	765.92	831	SMA shutter cycle on
	13:13:07	793.12	832	SMA shutter cycle off
	13:13:39	793.65	881	Detector bias heater off
	13:32:51	812.85	882	Detector bias heater on at level 1
	13:35:31	815.52	881	Detector bias heater off
	13:36:03	816.05	883	Detector bias heater on at level 2
	13:38:43	818.72	881	Detector bias heater off
	13:39:15	819.25	884	Detector bias heater on at level 3
	13:41:55	821.92	881	Detector bias heater off
	13:42:27	822.45	852	Solar port heaters off
	13:58:27	838.45	851	Solar port heaters on
	13:58:59	838.98	821	Elevate to internal source (stow)

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Table 7. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
08/29/90	15:42:27	942.45	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
08/29/90	16:36:51	996.85	882	Detector bias heater on at level 1
	16:39:31	999.52	881	Detector bias heater off
	16:40:03	1000.05	883	Detector bias heater on at level 2
	16:42:43	1002.72	881	Detector bias heater off
	16:43:15	1003.25	884	Detector bias heater on at level 3
	16:45:55	1005.92	881	Detector bias heater off
End postcalibration sequence. Begin solar measurement.				
08/31/90	12:22:27	742.45	831	SMA shutter cycle on
	16:02:43	962.72	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
09/03/90	11:47:15	707.25	831	SMA shutter cycle on
	15:27:31	927.52	832	SMA shutter cycle off
End solar measurement. Begin preinternal calibration sequence.				
09/05/90	06:44:51	404.85	882	Detector bias heater on at level 1
	06:47:31	407.52	881	Detector bias heater off
	06:48:03	408.05	883	Detector bias heater on at level 2
	06:50:43	410.72	881	Detector bias heater off
	06:51:15	411.25	884	Detector bias heater on at level 3
	06:53:55	413.92	881	Detector bias heater off
	08:19:15	499.25	821	Elevate to internal source (stow)
	08:35:15	515.25	862	WFOV BB heater on at temp. 1
	08:51:15	531.25	872	MFOV BB heater on at temp. 1

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
09/05/90	10:02:11	602.18	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
09/05/90	10:03:15	603.25	881	Detector bias heater off
	10:03:47	603.78	852	Solar port heaters off
	10:04:19	604.32	821	Elevate to internal source (stow)
	10:04:51	604.85	851	Solar port heaters on
	10:06:59	606.98	882	Detector bias heater on at level 1
	10:10:43	610.72	892	SWICS on at level 3
	10:13:55	613.92	881	Detector bias heater off
	10:17:39	617.65	862	WFOV BB heater on at temp. 1
	10:18:11	618.18	872	MFOV BB heater on at temp. 1
	10:19:15	619.25	891	SWICS off
	10:32:35	632.58	883	Detector bias heater on at level 2
	10:36:19	636.32	893	SWICS on at level 2
	10:39:31	639.52	881	Detector bias heater off
	10:43:15	643.25	863	WFOV BB heater on at temp. 2
	10:43:47	643.78	873	MFOV BB heater on at temp. 2
	10:44:51	644.85	891	SWICS off
	10:58:11	658.18	884	Detector bias heater on at level 3
	11:01:55	661.92	894	SWICS on at level 1
	11:04:03	664.05	881	Detector bias heater off
	11:06:43	666.72	852	Solar port heaters off
	11:07:47	667.78	861	WFOV BB heater off
	11:08:19	668.32	871	MFOV BB heater off
	11:08:51	668.85	851	Solar port heaters on

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
09/05/90	11:09:23	669.38	891	SWICS off
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
09/05/90	11:12:03	672.05	419	Address azimuth position A
	11:12:35	672.58	208	Data command, high byte
	11:13:07	673.12	1CA	Data command, low byte
End azimuth angle load commands (A = 168.75°).				
09/05/90	11:50:59	710.98	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
09/05/90	12:51:47	771.78	419	Address azimuth position A
	12:52:19	772.32	208	Data command, high byte
	12:52:51	772.85	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
09/05/90	12:54:27	774.45	822	Elevate to solar ports (Sun)
	12:55:31	775.52	883	Detector bias heater on at level 2
	13:05:39	785.65	831	SMA shutter cycle on
	13:32:51	812.85	832	SMA shutter cycle off
	13:33:23	813.38	881	Detector bias heater off
	13:52:35	832.58	882	Detector bias heater on at level 1
	13:55:15	835.25	881	Detector bias heater off
	13:55:47	835.78	883	Detector bias heater on at level 2
	13:58:27	838.45	881	Detector bias heater off
	13:58:59	838.98	884	Detector bias heater on at level 3
	14:01:39	841.65	881	Detector bias heater off
	14:02:11	842.18	852	Solar port heaters off
	14:18:11	858.18	851	Solar port heaters on

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
09/05/90	14:18:43	858.72	821	Elevate to internal source (stow)
	16:02:11	962.18	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
09/05/90	16:56:35	1016.58	882	Detector bias heater on at level 1
	16:59:15	1019.25	881	Detector bias heater off
	16:59:47	1019.78	883	Detector bias heater on at level 2
	17:02:27	1022.45	881	Detector bias heater off
	17:02:59	1022.98	884	Detector bias heater on at level 3
	17:05:39	1025.65	881	Detector bias heater off
End postcalibration sequence. Begin solar measurement.				
09/07/90	12:43:15	763.25	831	SMA shutter cycle on
	16:22:59	982.98	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
09/10/90	12:08:03	728.05	831	SMA shutter cycle on
	15:48:19	948.32	832	SMA shutter cycle off
End solar measurement. Begin preinternal calibration sequence.				
09/12/90	05:24:19	324.32	882	Detector bias heater on at level 1
	05:26:59	326.98	881	Detector bias heater off
	05:27:31	327.52	883	Detector bias heater on at level 2
	05:30:11	330.18	881	Detector bias heater off
	05:30:43	330.72	884	Detector bias heater on at level 3
	05:33:23	333.38	881	Detector bias heater off
End preinternal calibration sequence. Entire internal calibration missing by data dropout.				

Table 7. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
09/12/90	10:30:27	630.45	814	Azimuth to position A
Begin azimuth angle load commands for normal operational mode.				
09/12/90	11:31:15	691.25	419	Address azimuth position A
	11:31:47	691.78	208	Data command, high byte
	11:32:19	692.32	1DB	Data command, low byte
End azimuth angle load commands (A = 170.03°). Begin solar calibration sequence.				
09/12/90	11:33:55	693.92	822	Elevate to solar ports (Sun)
	11:34:59	694.98	883	Detector bias heater on at level 2
	11:45:07	705.12	831	SMA shutter cycle on
	12:12:19	732.32	832	SMA shutter cycle off
	12:12:51	732.85	881	Detector bias heater off
	12:32:03	752.05	882	Detector bias heater on at level 1
	12:34:43	754.72	881	Detector bias heater off
	12:35:15	755.25	883	Detector bias heater on at level 2
	12:37:55	757.92	881	Detector bias heater off
	12:38:27	758.45	884	Detector bias heater on at level 3
	12:41:07	761.12	881	Detector bias heater off
	12:41:39	761.65	852	Solar port heaters off
	12:57:39	777.65	851	Solar port heaters on
	12:58:11	778.18	821	Elevate to internal source (stow)
	14:41:39	881.65	823	Elevate to nadir (Earth)
Blockage occurred in all five detectors. End solar calibration sequence. Begin postcalibration sequence.				
09/12/90	15:36:03	936.05	882	Detector bias heater on at level 1
	15:38:43	938.72	881	Detector bias heater off

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
09/12/90	15:39:15	939.25	883	Detector bias heater on at level 2
	15:41:55	941.92	881	Detector bias heater off
	15:42:27	942.45	884	Detector bias heater on at level 3
	15:45:07	945.12	881	Detector bias heater off
End postcalibration sequence. Begin solar measurement.				
09/14/90	13:05:07	785.12	831	SMA shutter cycle on
	16:45:23	1005.38	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
09/21/90	12:00:35	720.58	831	SMA shutter cycle on
09/25/90	13:57:55	837.92	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
09/28/90	12:00:35	720.58	831	SMA shutter cycle on
	15:01:55	901.92	813	Azimuth to 180°
	15:40:51	940.85	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
10/01/90	12:00:35	720.58	831	SMA shutter cycle on
	15:40:51	940.85	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
10/05/90	12:00:36	720.60	831	SMA shutter cycle on
	15:40:20	940.33	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
10/08/90	12:00:36	720.60	831	SMA shutter cycle on

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Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
10/08/90	15:40:20	940.33	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
10/12/90	12:00:36	720.60	831	SMA shutter cycle on
	15:40:20	940.33	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
10/15/90	12:00:36	720.60	831	SMA shutter cycle on
	15:40:20	940.33	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
10/19/90	12:00:36	720.60	831	SMA shutter cycle on
	15:40:20	940.33	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
10/22/90	12:00:36	720.60	831	SMA shutter cycle on
	15:40:20	940.33	832	SMA shutter cycle off
End solar measurement. Begin modified preinternal calibration sequence.				
10/24/90	08:49:08	529.13	821	Elevate to internal source (stow)
	09:04:04	544.07	862	WFOV BB heater on at temp. 1
	09:19:00	559.00	872	MFOV BB heater on at temp. 1
End modified preinternal calibration sequence. Begin internal calibration sequence.				
10/24/90	10:38:28	638.47	8A1	Begin internal calibration
	10:39:00	639.00	881	Detector bias heater off
	10:39:32	639.53	852	Solar port heaters off
	10:40:04	640.07	821	Elevate to internal source (stow)

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
10/24/90	10:40:36	640.60	851	Solar port heaters on
	10:42:44	642.73	882	Detector bias heater on at level 1
	10:44:52	644.87	892	SWICS on at level 3
	10:48:04	648.07	881	Detector bias heater off
	10:51:48	651.80	862	WFOV BB heater on at temp. 1
	10:52:20	652.33	872	MFOV BB heater on at temp. 1
	10:53:24	653.40	891	SWICS off
	11:06:44	666.73	883	Detector bias heater on at level 2
	11:08:52	668.87	893	SWICS on at level 2
	11:12:04	672.07	881	Detector bias heater off
	11:15:48	675.80	863	WFOV BB heater on at temp. 2
	11:16:20	676.33	873	MFOV BB heater on at temp. 2
	11:17:24	677.40	891	SWICS off
	11:30:44	690.73	884	Detector bias heater on at level 3
	11:32:52	692.87	894	SWICS on at level 1
	11:35:00	695.00	881	Detector bias heater off
	11:37:40	697.67	852	Solar port heaters off
	11:38:44	698.73	861	WFOV BB heater off
	11:39:16	699.27	871	MFOV BB heater off
	11:39:48	699.80	851	Solar port heaters on
	11:40:20	700.33	891	SWICS off
End internal calibration sequence.				
10/24/90	11:48:20	708.33	823	Elevate to nadir (Earth)
Begin modified solar calibration sequence.				
10/24/90	11:57:56	717.93	822	Elevate to solar ports (Sun)
	11:59:32	719.53	883	Detector bias heater on at level 2

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
10/24/90	12:01:08	721.13	831	SMA shutter cycle on
	14:01:08	841.13	832	SMA shutter cycle off
	14:02:44	842.73	881	Detector bias heater off
	14:04:20	844.33	823	Elevate to nadir (Earth)
End modified solar calibration sequence. Begin solar measurement.				
10/26/90	12:00:36	720.60	831	SMA shutter cycle on
	15:40:20	940.33	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
10/29/90	12:00:36	720.60	831	SMA shutter cycle on
	15:40:20	940.33	832	SMA shutter cycle off
End solar measurement. Begin modified preinternal calibration sequence.				
10/31/90	08:49:08	529.13	821	Elevate to internal source (stow)
	09:04:04	544.07	862	WFOV BB heater on at temp. 1
	10:04:52	604.87	872	MFOV BB heater on at temp. 1
End modified preinternal calibration sequence. Begin internal calibration sequence.				
10/31/90	10:38:28	638.47	8A1	Begin internal calibration
	10:39:00	639.00	881	Detector bias heater off
	10:39:32	639.53	852	Solar port heaters off
	10:40:04	640.07	821	Elevate to internal source (stow)
	10:40:36	640.60	851	Solar port heaters on
	10:42:44	642.73	882	Detector bias heater on at level 1
	10:44:52	644.87	892	SWICS on at level 3
	10:48:04	648.07	881	Detector bias heater off
	10:51:48	651.80	862	WFOV BB heater on at temp. 1

Table 7. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
10/31/90	10:52:20	652.33	872	MFOV BB heater on at temp. 1
	10:53:24	653.40	891	SWICS off
	11:06:44	666.73	883	Detector bias heater on at level 2
	11:08:52	668.87	893	SWICS on at level 2
	11:12:04	672.07	881	Detector bias heater off
	11:15:48	675.80	863	WFOV BB heater on at temp. 2
	11:16:20	676.33	873	MFOV BB heater on at temp. 2
	11:17:24	677.40	891	SWICS off
	11:30:44	690.73	884	Detector bias heater on at level 3
	11:32:52	692.87	894	SWICS on at level 1
	11:35:00	695.00	881	Detector bias heater off
	11:37:40	697.67	852	Solar port heaters off
	11:38:44	698.73	861	WFOV BB heater off
	11:39:16	699.27	871	MFOV BB heater off
	11:39:48	699.80	851	Solar port heaters on
	11:40:20	700.33	891	SWICS off
End internal calibration sequence.				
10/31/90	11:48:20	708.33	823	Elevate to nadir (Earth)
Begin modified solar calibration sequence.				
10/31/90	11:57:56	717.93	822	Elevate to solar ports (Sun)
	11:59:32	719.53	883	Detector bias heater on at level 2
	12:01:08	721.13	831	SMA shutter cycle on
	14:01:08	841.13	832	SMA shutter cycle off
	14:02:44	842.73	881	Detector bias heater off
	14:04:20	844.33	823	Elevate to nadir (Earth)
End modified solar calibration sequence.				

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
Begin modified preinternal calibration sequence.				
11/07/90	08:48:36	528.60	821	Elevate to internal source (stow)
	09:03:32	543.53	862	WFOV BB heater on at temp. 1
	09:18:28	558.47	872	MFOV BB heater on at temp. 1
End modified preinternal calibration sequence. Begin internal calibration sequence.				
11/07/90	10:37:56	637.93	8A1	Begin internal calibration
	10:38:28	638.47	881	Detector bias heater off
	10:39:00	639.00	852	Solar port heaters off
	10:39:32	639.53	821	Elevate to internal source (stow)
	10:40:04	640.07	851	Solar port heaters on
	10:42:12	642.20	882	Detector bias heater on at level 1
	10:44:20	644.33	892	SWICS on at level 3
	10:47:32	647.53	881	Detector bias heater off
	10:51:16	651.27	862	WFOV BB heater on at temp. 1
	10:51:48	651.80	872	MFOV BB heater on at temp. 1
	10:52:52	652.87	891	SWICS off
	11:06:12	666.20	883	Detector bias heater on at level 2
	11:08:20	668.33	893	SWICS on at level 2
	11:11:32	671.53	881	Detector bias heater off
	11:15:16	675.27	863	WFOV BB heater on at temp. 2
	11:15:48	675.80	873	MFOV BB heater on at temp. 2
	11:16:52	676.87	891	SWICS off
	11:30:12	690.20	884	Detector bias heater on at level 3
	11:32:20	692.33	894	SWICS on at level 1
	11:34:28	694.47	881	Detector bias heater off

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
11/07/90	11:37:08	697.13	852	Solar port heaters off
	11:38:12	698.20	861	WFOV BB heater off
	11:38:44	698.73	871	MFOV BB heater off
	11:39:16	699.27	851	Solar port heaters on
	11:39:48	699.80	891	SWICS off
End internal calibration sequence.				
11/07/90	11:47:48	707.80	823	Elevate to nadir (Earth)
Begin modified solar calibration sequence.				
11/07/90	11:57:24	717.40	822	Elevate to solar ports (Sun)
	11:59:00	719.00	883	Detector bias heater on at level 2
	12:00:36	720.60	831	SMA shutter cycle on
	15:42:12	942.20	823	Elevate to nadir (Earth)
Partially obscured by fill data and data dropout. End modified solar calibration sequence. Begin solar measurement.				
11/09/90	12:00:36	720.60	831	SMA shutter cycle on
	15:40:20	940.33	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
11/12/90	12:00:36	720.60	831	SMA shutter cycle on
	15:40:20	940.33	832	SMA shutter cycle off
End solar measurement. Begin modified preinternal calibration sequence.				
11/14/90	08:48:38	528.63	821	Elevate to internal source (stow)
	09:03:34	543.57	862	WFOV BB heater on at temp. 1
	09:18:30	558.50	872	MFOV BB heater on at temp. 1
End modified preinternal calibration sequence. Begin internal calibration sequence.				

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
11/14/90	10:37:58	637.97	8A1	Begin internal calibration
	10:38:30	638.50	881	Detector bias heater off
	10:39:02	639.03	852	Solar port heaters off
	10:39:34	639.57	821	Elevate to internal source (stow)
	10:40:06	640.10	851	Solar port heaters on
	10:42:14	642.23	882	Detector bias heater on at level 1
	10:44:22	644.37	892	SWICS on at level 3
	10:47:34	647.57	881	Detector bias heater off
	10:51:18	651.30	862	WFOV BB heater on at temp. 1
	10:51:50	651.83	872	MFOV BB heater on at temp. 1
	10:52:54	652.90	891	SWICS off
	11:06:14	666.23	883	Detector bias heater on at level 2
	11:08:22	668.37	893	SWICS on at level 2
	11:11:34	671.57	881	Detector bias heater off
	11:15:18	675.30	863	WFOV BB heater on at temp. 2
	11:15:50	675.83	873	MFOV BB heater on at temp. 2
	11:16:54	676.90	891	SWICS off
	11:30:14	690.23	884	Detector bias heater on at level 3
	11:32:22	692.37	894	SWICS on at level 1
	11:34:30	694.50	881	Detector bias heater off
	11:37:10	697.17	852	Solar port heaters off
	11:38:14	698.23	861	WFOV BB heater off
	11:38:46	698.77	871	MFOV BB heater off
	11:39:18	699.30	851	Solar port heaters on
	11:39:50	699.83	891	SWICS off
End internal calibration sequence.				

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
11/14/90	11:47:50	707.83	823	Elevate to nadir (Earth)
Begin modified solar calibration sequence.				
11/14/90	11:57:26	717.43	822	Elevate to solar ports (Sun)
	11:59:02	719.03	883	Detector bias heater on at level 2
	12:00:38	720.63	831	SMA shutter cycle on
	14:00:38	840.63	832	SMA shutter cycle off
	14:02:14	842.23	881	Detector bias heater off
	14:03:50	843.83	823	Elevate to nadir (Earth)
End modified solar calibration sequence. Begin solar measurement.				
11/16/90	12:00:38	720.63	831	SMA shutter cycle on
	15:40:22	940.37	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
11/19/90	13:14:46	794.77	831	SMA shutter cycle on
	15:40:22	940.37	832	SMA shutter cycle off
End solar measurement. Begin modified preinternal calibration sequence.				
11/21/90	08:48:38	528.63	821	Elevate to internal source (stow)
	09:03:34	543.57	862	WFOV BB heater on at temp. 1
	09:18:30	558.50	872	MFOV BB heater on at temp. 1
End modified preinternal calibration sequence. Begin internal calibration sequence.				
11/21/90	10:37:58	637.97	8A1	Begin internal calibration
	10:38:30	638.50	881	Detector bias heater off
	10:39:02	639.03	852	Solar port heaters off
	10:39:34	639.57	821	Elevate to internal source (stow)
	10:40:06	640.10	851	Solar port heaters on

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
11/21/90	10:42:14	642.23	882	Detector bias heater on at level 1
	10:44:22	644.37	892	SWICS on at level 3
	10:47:34	647.57	881	Detector bias heater off
	10:51:18	651.30	862	WFOV BB heater on at temp. 1
	10:51:50	651.83	872	MFOV BB heater on at temp. 1
	10:52:54	652.90	891	SWICS off
	11:06:14	666.23	883	Detector bias heater on at level 2
	11:08:22	668.37	893	SWICS on at level 2
	11:11:34	671.57	881	Detector bias heater off
	11:15:18	675.30	863	WFOV BB heater on at temp. 2
	11:15:50	675.83	873	MFOV BB heater on at temp. 2
	11:16:54	676.90	891	SWICS off
	11:30:14	690.23	884	Detector bias heater on at level 3
	11:32:22	692.37	894	SWICS on at level 1
	11:34:30	694.50	881	Detector bias heater off
	11:37:10	697.17	852	Solar port heaters off
	11:38:14	698.23	861	WFOV BB heater off
	11:38:46	698.77	871	MFOV BB heater off
	11:39:18	699.30	851	Solar port heaters on
	11:39:50	699.83	891	SWICS off
End internal calibration sequence.				
11/21/90	11:47:50	707.83	823	Elevate to nadir (Earth)
Begin modified solar calibration sequence.				
11/21/90	11:57:26	717.43	822	Elevate to solar ports (Sun)
	11:59:02	719.03	883	Detector bias heater on at level 2
	12:00:38	720.63	831	SMA shutter cycle on

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
11/21/90	14:00:38	840.63	832	SMA shutter cycle off
	14:02:14	842.23	881	Detector bias heater off
	14:03:50	843.83	823	Elevate to nadir (Earth)
End modified solar calibration sequence. Begin solar measurement.				
11/23/90	12:00:38	720.63	831	SMA shutter cycle on
	15:40:22	940.37	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
11/26/90	19:38:14	1178.23	831	SMA shutter cycle on
11/27/90	06:05:26	365.43	832	SMA shutter cycle off
End solar measurement. Begin modified preinternal calibration sequence.				
11/28/90	08:48:38	528.63	821	Elevate to internal source (stow)
	09:03:34	543.57	862	WFOV BB heater on at temp. 1
	09:18:30	558.50	872	MFOV BB heater on at temp. 1
End modified preinternal calibration sequence. Begin internal calibration sequence.				
11/28/90	10:37:58	637.97	8A1	Begin internal calibration
	10:38:30	638.50	881	Detector bias heater off
	10:39:02	639.03	852	Solar port heaters off
	10:39:34	639.57	821	Elevate to internal source (stow)
	10:40:06	640.10	851	Solar port heaters on
	10:42:14	642.23	882	Detector bias heater on at level 1
	10:44:22	644.37	892	SWICS on at level 3
	10:47:34	647.57	881	Detector bias heater off
	10:51:18	651.30	862	WFOV BB heater on at temp. 1
	10:51:50	651.83	872	MFOV BB heater on at temp. 1

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
11/28/90	10:52:54	652.90	891	SWICS off
	11:06:14	666.23	883	Detector bias heater on at level 2
	11:08:22	668.37	893	SWICS on at level 2
	11:11:34	671.57	881	Detector bias heater off
	11:15:18	675.30	863	WFOV BB heater on at temp. 2
	11:15:50	675.83	873	MFOV BB heater on at temp. 2
	11:16:54	676.90	891	SWICS off
	11:30:14	690.23	884	Detector bias heater on at level 3
	11:32:22	692.37	894	SWICS on at level 1
	11:34:30	694.50	881	Detector bias heater off
	11:37:10	697.17	852	Solar port heaters off
	11:38:14	698.23	861	WFOV BB heater off
	11:38:46	698.77	871	MFOV BB heater off
	11:39:18	699.30	851	Solar port heaters on
	11:39:50	699.83	891	SWICS off
End internal calibration sequence.				
11/28/90	11:47:50	707.83	823	Elevate to nadir (Earth)
Begin modified solar calibration sequence.				
11/28/90	11:57:26	717.43	822	Elevate to solar ports (Sun)
	11:59:02	719.03	883	Detector bias heater on at level 2
	12:00:38	720.63	831	SMA shutter cycle on
	14:00:38	840.63	832	SMA shutter cycle off
	14:02:14	842.23	881	Detector bias heater off
	14:03:50	843.83	823	Elevate to nadir (Earth)
End modified solar calibration sequence. Begin solar measurement.				

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
11/30/90	11:57:26	717.43	831	SMA shutter cycle on
	15:37:42	937.70	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
12/03/90	13:01:58	781.97	831	SMA shutter cycle on
	16:42:14	1002.23	832	SMA shutter cycle off
End solar measurement. Begin modified preinternal calibration sequence.				
12/05/90	08:48:38	528.63	821	Elevate to internal source (stow)
	09:03:34	543.57	862	WFOV BB heater on at temp. 1
	09:18:30	558.50	872	MFOV BB heater on at temp. 1
End modified preinternal calibration sequence. Begin internal calibration sequence.				
12/05/90	10:37:58	637.97	8A1	Begin internal calibration
	10:38:30	638.50	881	Detector bias heater off
	10:39:02	639.03	852	Solar port heaters off
	10:39:34	639.57	821	Elevate to internal source (stow)
	10:40:06	640.10	851	Solar port heaters on
	10:42:14	642.23	882	Detector bias heater on at level 1
	10:44:22	644.37	892	SWICS on at level 3
	10:47:34	647.57	881	Detector bias heater off
	10:51:18	651.30	862	WFOV BB heater on at temp. 1
	10:51:50	651.83	872	MFOV BB heater on at temp. 1
	10:52:54	652.90	891	SWICS off
	11:06:14	666.23	883	Detector bias heater on at level 2

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Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
12/05/90	11:08:22	668.37	893	SWICS on at level 2
	11:11:34	671.57	881	Detector bias heater off
	11:15:18	675.30	863	WFOV BB heater on at temp. 2
	11:15:50	675.83	873	MFOV BB heater on at temp. 2
	11:16:54	676.90	891	SWICS off
	11:30:14	690.23	884	Detector bias heater on at level 3
	11:32:22	692.37	894	SWICS on at level 1
	11:34:30	694.50	881	Detector bias heater off
	11:37:10	697.17	852	Solar port heaters off
	11:38:14	698.23	861	WFOV BB heater off
	11:38:46	698.77	871	MFOV BB heater off
	11:39:18	699.30	851	Solar port heaters on
	11:39:50	699.83	891	SWICS off
End internal calibration sequence.				
12/05/90	11:47:50	707.83	823	Elevate to nadir (Earth)
Begin modified solar calibration sequence.				
12/05/90	11:57:26	717.43	822	Elevate to solar ports (Sun)
	11:59:02	719.03	883	Detector bias heater on at level 2
	12:00:38	720.63	831	SMA shutter cycle on
	14:00:38	840.63	832	SMA shutter cycle off
	14:02:14	842.23	881	Detector bias heater off
	14:03:50	843.83	823	Elevate to nadir (Earth)
End modified solar calibration sequence. Begin solar measurement.				
12/07/90	12:12:22	732.37	831	SMA shutter cycle on
	15:52:38	952.63	832	SMA shutter cycle off

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
End solar measurement. Begin solar measurement.
12/10/90	13:16:54	796.90	831	SMA shutter cycle on
	16:57:10	1017.17	832	SMA shutter cycle off
End solar measurement. Begin azimuth angle load commands for solar calibration.
12/12/90	03:30:14	210.23	419	Address azimuth position A
	03:30:46	210.77	209	Data command, high byte
	03:31:18	211.30	100	Data command, low byte
End azimuth angle load commands (A = 172.80°).
12/12/90	03:31:50	211.83	814	Azimuth to position A
Begin modified preinternal calibration sequence.
12/12/90	08:48:38	528.63	821	Elevate to internal source (stow)
	09:03:34	543.57	862	WFOV BB heater on at temp. 1
	09:18:30	558.50	872	MFOV BB heater on at temp. 1
End modified preinternal calibration sequence. Begin internal calibration sequence.
12/12/90	10:37:58	637.97	8A1	Begin internal calibration
	10:38:30	638.50	881	Detector bias heater off
	10:39:02	639.03	852	Solar port heaters off
	10:39:34	639.57	821	Elevate to internal source (stow)
	10:40:06	640.10	851	Solar port heaters on
	10:42:14	642.23	882	Detector bias heater on at level 1
	10:44:22	644.37	892	SWICS on at level 3
	10:47:34	647.57	881	Detector bias heater off
	10:51:18	651.30	862	WFOV BB heater on at temp. 1
	10:51:50	651.83	872	MFOV BB heater on at temp. 1

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Table 7. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
12/12/90	10:52:54	652.90	891	SWICS off
	11:06:14	666.23	883	Detector bias heater on at level 2
	11:08:22	668.37	893	SWICS on at level 2
	11:11:34	671.57	881	Detector bias heater off
	11:15:18	675.30	863	WFOV BB heater on at temp. 2
	11:15:50	675.83	873	MFOV BB heater on at temp. 2
	11:16:54	676.90	891	SWICS off
	11:30:14	690.23	884	Detector bias heater on at level 3
	11:32:22	692.37	894	SWICS on at level 1
	11:34:30	694.50	881	Detector bias heater off
	11:37:10	697.17	852	Solar port heaters off
	11:38:14	698.23	861	WFOV BB heater off
	11:38:46	698.77	871	MFOV BB heater off
	11:39:18	699.30	851	Solar port heaters on
	11:39:50	699.83	891	SWICS off
End internal calibration sequence.				
12/12/90	11:47:50	707.83	823	Elevate to nadir (Earth)
Begin modified solar calibration sequence.				
12/12/90	11:57:26	717.43	822	Elevate to solar ports (Sun)
	11:59:02	719.03	883	Detector bias heater on at level 2
	12:00:38	720.63	831	SMA shutter cycle on
	14:00:38	840.63	832	SMA shutter cycle off
	14:02:14	842.23	881	Detector bias heater off
	14:03:50	843.83	823	Elevate to nadir (Earth)
End modified solar calibration sequence. Begin solar measurement.				

Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
12/14/90	02:16:06	136.10	831	SMA shutter cycle on
	05:56:22	356.37	832	SMA shutter cycle off
End solar measurement. Begin azimuth angle load commands for solar calibration.				
12/18/90	17:00:22	1020.37	419	Address azimuth position A
	17:00:54	1020.90	208	Data command, high byte
	17:01:26	1021.43	1F8	Data command, low byte
End azimuth angle load commands (A = 172.20°).				
12/18/90	17:01:58	1021.97	814	Azimuth to position A
Begin modified preinternal calibration sequence.				
12/19/90	08:48:38	528.63	821	Elevate to internal source (stow)
	09:03:34	543.57	862	WFOV BB heater on at temp. 1
	09:18:30	558.50	872	MFOV BB heater on at temp. 1
End modified preinternal calibration sequence. Begin internal calibration sequence.				
12/19/90	10:37:58	637.97	8A1	Begin internal calibration
	10:38:30	638.50	881	Detector bias heater off
	10:39:02	639.03	852	Solar port heaters off
	10:39:34	639.57	821	Elevate to internal source (stow)
	10:40:06	640.10	851	Solar port heaters on
	10:42:14	642.23	882	Detector bias heater on at level 1
	10:44:22	644.37	892	SWICS on at level 3
	10:47:34	647.57	881	Detector bias heater off
	10:51:18	651.30	862	WFOV BB heater on at temp. 1
	10:51:50	651.83	872	MFOV BB heater on at temp. 1
	10:52:54	652.90	891	SWICS off
	11:06:14	666.23	883	Detector bias heater on at level 2

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Table 7. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
12/19/90	11:08:22	668.37	893	SWICS on at level 2
	11:11:34	671.57	881	Detector bias heater off
	11:15:18	675.30	863	WFOV BB heater on at temp. 2
	11:15:50	675.83	873	MFOV BB heater on at temp. 2
	11:16:54	676.90	891	SWICS off
	11:30:14	690.23	884	Detector bias heater on at level 3
	11:32:22	692.37	894	SWICS on at level 1
	11:34:30	694.50	881	Detector bias heater off
	11:37:10	697.17	852	Solar port heaters off
	11:38:14	698.23	861	WFOV BB heater off
	11:38:46	698.77	871	MFOV BB heater off
	11:39:18	699.30	851	Solar port heaters on
	11:39:50	699.83	891	SWICS off
End internal calibration sequence.				
12/19/90	11:47:50	707.83	823	Elevate to nadir (Earth)
Begin modified solar calibration sequence.				
12/19/90	11:57:26	717.43	822	Elevate to solar ports (Sun)
	11:59:02	719.03	883	Detector bias heater on at level 2
	12:00:38	720.63	831	SMA shutter cycle on
	14:00:38	840.63	832	SMA shutter cycle off
	14:02:14	842.23	881	Detector bias heater off
	14:03:50	843.83	823	Elevate to nadir (Earth)
Partially obscured by data dropout. End modified solar calibration sequence. Begin solar measurement.				
12/21/90	12:44:54	764.90	831	SMA shutter cycle on
	16:25:10	985.17	832	SMA shutter cycle off

Table 7. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
End solar measurement. Begin solar measurement.				
12/24/90	12:08:38	728.63	831	SMA shutter cycle on
	15:48:54	948.90	832	SMA shutter cycle off
End solar measurement.				
12/26/90	04:33:10	273.17	814	Azimuth to position A
Begin modified preinternal calibration sequence.				
12/26/90	08:48:38	528.63	821	Elevate to internal source (stow)
	09:04:06	544.10	862	WFOV BB heater on at temp. 1
	09:19:02	559.03	872	MFOV BB heater on at temp. 1
End modified preinternal calibration sequence. Begin internal calibration sequence.				
12/26/90	10:37:58	637.97	8A1	Begin internal calibration
	10:38:30	638.50	881	Detector bias heater off
	10:39:02	639.03	852	Solar port heaters off
	10:39:34	639.57	821	Elevate to internal source (stow)
	10:40:06	640.10	851	Solar port heaters on
	10:42:14	642.23	882	Detector bias heater on at level 1
	10:44:22	644.37	892	SWICS on at level 3
	10:47:34	647.57	881	Detector bias heater off
	10:51:18	651.30	862	WFOV BB heater on at temp. 1
	10:51:50	651.83	872	MFOV BB heater on at temp. 1
	10:52:54	652.90	891	SWICS off
	11:06:14	666.23	883	Detector bias heater on at level 2
	11:08:22	668.37	893	SWICS on at level 2
	11:11:34	671.57	881	Detector bias heater off
	11:15:18	675.30	863	WFOV BB heater on at temp. 2

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Table 7. Concluded

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
12/26/90	11:15:50	675.83	873	MFOV BB heater on at temp. 2
	11:16:54	676.90	891	SWICS off
	11:30:14	690.23	884	Detector bias heater on at level 3
	11:32:22	692.37	894	SWICS on at level 1
	11:34:30	694.50	881	Detector bias heater off
	11:37:10	697.17	852	Solar port heaters off
	11:38:14	698.23	861	WFOV BB heater off
	11:38:46	698.77	871	MFOV BB heater off
	11:39:18	699.30	851	Solar port heaters on
	11:39:50	699.83	891	SWICS off
End internal calibration sequence.				
12/26/90	11:47:50	707.83	823	Elevate to nadir (Earth)
Begin modified solar calibration sequence.				
12/26/90	11:57:26	717.43	822	Elevate to solar ports (Sun)
	11:59:02	719.03	883	Detector bias heater on at level 2
	12:00:38	720.63	831	SMA shutter cycle on
	14:00:38	840.63	832	SMA shutter cycle off
	14:02:14	842.23	881	Detector bias heater off
	14:03:50	843.83	823	Elevate to nadir (Earth)
End modified solar calibration sequence. Begin solar measurement.				
12/28/90	13:02:30	782.50	831	SMA shutter cycle on
	16:42:46	1002.77	832	SMA shutter cycle off
End solar measurement. Begin solar measurement.				
12/31/90	12:26:14	746.23	831	SMA shutter cycle on
	16:06:30	966.50	832	SMA shutter cycle off
End solar measurement.				

Table 8. Operational Commands Executed by Nonscanner Instrument on NOAA 10 Spacecraft From January 1990 Through December 1990

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
Begin preinternal calibration sequence.
01/03/90	07:28:47	448.78	882	Detector bias heater on at level 1
	07:31:27	451.45	881	Detector bias heater off
	07:31:59	451.98	883	Detector bias heater on at level 2
	07:34:39	454.65	881	Detector bias heater off
	07:35:11	455.18	884	Detector bias heater on at level 3
	07:37:51	457.85	881	Detector bias heater off
	08:09:19	489.32	821	Elevate to internal source (stow)
	08:25:19	505.32	862	WFOV BB heater on at temp. 1
	08:41:19	521.32	872	MFOV BB heater on at temp. 1
	09:52:15	592.25	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.
01/03/90	09:53:19	593.32	881	Detector bias heater off
	09:53:51	593.85	852	Solar port heaters off
	09:54:39	594.65	821	Elevate to internal source (stow)
	09:54:55	594.92	851	Solar port heaters on
	09:57:03	597.05	882	Detector bias heater on at level 1
	10:00:47	600.78	892	SWICS on at level 3
	10:03:59	603.98	881	Detector bias heater off
	10:07:43	607.72	862	WFOV BB heater on at temp. 1
	10:08:15	608.25	872	MFOV BB heater on at temp. 1
	10:09:19	609.32	891	SWICS off
	10:22:39	622.65	883	Detector bias heater on at level 2
	10:26:23	626.38	893	SWICS on at level 2
	10:29:35	629.58	881	Detector bias heater off
	10:33:19	633.32	863	WFOV BB heater on at temp. 2

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Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
01/03/90	10:33:51	633.85	873	MFOV BB heater on at temp. 2
	10:34:55	634.92	891	SWICS off
	10:48:15	648.25	884	Detector bias heater on at level 3
	10:51:59	651.98	894	SWICS on at level 1
	10:54:07	654.12	881	Detector bias heater off
	10:56:47	656.78	852	Solar port heaters off
	10:57:51	657.85	861	WFOV BB heater off
	10:58:23	658.38	871	MFOV BB heater off
	10:58:55	658.92	851	Solar port heaters on
	10:59:27	659.45	891	SWICS off
End internal calibration sequence.				
01/03/90	11:10:07	670.12	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
01/03/90	11:14:23	674.38	419	Address azimuth position A
	11:14:55	674.92	208	Data command, high byte
	11:15:27	675.45	13E	Data command, low byte
End azimuth angle load commands (A = 158.25°). Begin solar calibration sequence.				
01/03/90	11:16:31	676.52	822	Elevate to solar ports (Sun)
	11:48:31	708.52	814	Azimuth to position A
	11:49:35	709.58	883	Detector bias heater on at level 2
	12:05:35	725.58	831	SMA shutter cycle on
	12:40:47	760.78	832	SMA shutter cycle off
	12:41:19	761.32	881	Detector bias heater off
	13:00:31	780.52	882	Detector bias heater on at level 1
	13:03:11	783.18	881	Detector bias heater off
	13:03:43	783.72	883	Detector bias heater on at level 2

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
01/03/90	13:06:23	786.38	881	Detector bias heater off
	13:06:55	786.92	884	Detector bias heater on at level 3
	13:09:35	789.58	881	Detector bias heater off
	13:10:07	790.12	852	Solar port heaters off
	13:26:07	806.12	851	Solar port heaters on
	13:26:39	806.65	821	Elevate to internal source (stow)
	13:42:39	822.65	813	Azimuth to 180°
	14:30:39	870.65	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
01/03/90	15:54:55	954.92	882	Detector bias heater on at level 1
	15:57:35	957.58	881	Detector bias heater off
	15:58:07	958.12	883	Detector bias heater on at level 2
	16:00:47	960.78	881	Detector bias heater off
	16:01:19	961.32	884	Detector bias heater on at level 3
	16:03:59	963.98	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
01/17/90	07:12:15	432.25	882	Detector bias heater on at level 1
	07:14:55	434.92	881	Detector bias heater off
	07:15:27	435.45	883	Detector bias heater on at level 2
	07:18:07	438.12	881	Detector bias heater off
	07:18:39	438.65	884	Detector bias heater on at level 3
	07:21:19	441.32	881	Detector bias heater off
	07:52:47	472.78	821	Elevate to internal source (stow)
	08:08:47	488.78	862	WFOV BB heater on at temp. 1
	08:24:47	504.78	872	MFOV BB heater on at temp. 1

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
01/17/90	09:35:43	575.72	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
01/17/90	09:36:47	576.78	881	Detector bias heater off
	09:37:19	577.32	852	Solar port heaters off
	09:37:51	577.85	821	Elevate to internal source (stow)
	09:38:23	578.38	851	Solar port heaters on
	09:40:31	580.52	882	Detector bias heater on at level 1
	09:44:15	584.25	892	SWICS on at level 3
	09:47:27	587.45	881	Detector bias heater off
	09:51:11	591.18	862	WFOV BB heater on at temp. 1
	09:51:43	591.72	872	MFOV BB heater on at temp. 1
	09:52:47	592.78	891	SWICS off
	10:06:07	606.12	883	Detector bias heater on at level 2
	10:09:51	609.85	893	SWICS on at level 2
	10:13:03	613.05	881	Detector bias heater off
	10:16:47	616.78	863	WFOV BB heater on at temp. 2
	10:17:19	617.32	873	MFOV BB heater on at temp. 2
	10:18:23	618.38	891	SWICS off
	10:31:43	631.72	884	Detector bias heater on at level 3
	10:35:27	635.45	894	SWICS on at level 1
	10:37:35	637.58	881	Detector bias heater off
	10:40:15	640.25	852	Solar port heaters off
	10:41:19	641.32	861	WFOV BB heater off
	10:41:51	641.85	871	MFOV BB heater off
	10:42:23	642.38	851	Solar port heaters on
	10:42:55	642.92	891	SWICS off
End internal calibration sequence.				

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
01/17/90	10:53:35	653.58	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
01/17/90	10:57:51	657.85	419	Address azimuth position A
	10:58:23	658.38	208	Data command, high byte
	10:58:55	658.92	161	Data command, low byte
End azimuth angle load commands (A = 160.88°). Begin solar calibration sequence.				
01/17/90	10:59:59	659.98	822	Elevate to solar ports (Sun)
	11:31:59	691.98	814	Azimuth to position A
	11:33:03	693.05	883	Detector bias heater on at level 2
	11:49:03	709.05	831	SMA shutter cycle on
	12:24:15	744.25	832	SMA shutter cycle off
	12:24:47	744.78	881	Detector bias heater off
	12:43:59	763.98	882	Detector bias heater on at level 1
	12:46:39	766.65	881	Detector bias heater off
	12:47:11	767.18	883	Detector bias heater on at level 2
	12:49:51	769.85	881	Detector bias heater off
	12:50:23	770.38	884	Detector bias heater on at level 3
	12:53:03	773.05	881	Detector bias heater off
	12:53:35	773.58	852	Solar port heaters off
	13:09:35	789.58	851	Solar port heaters on
	13:10:07	790.12	821	Elevate to internal source (stow)
	14:14:07	854.12	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
01/17/90	15:38:23	938.38	882	Detector bias heater on at level 1

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
01/17/90	15:41:03	941.05	881	Detector bias heater off
	15:41:35	941.58	883	Detector bias heater on at level 2
	15:44:15	944.25	881	Detector bias heater off
	15:44:47	944.78	884	Detector bias heater on at level 3
	15:47:27	947.45	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
01/24/90	07:53:51	473.85	882	Detector bias heater on at level 1
	07:56:31	476.52	881	Detector bias heater off
	07:57:03	477.05	883	Detector bias heater on at level 2
	07:59:43	479.72	881	Detector bias heater off
	08:00:15	480.25	884	Detector bias heater on at level 3
	08:02:55	482.92	881	Detector bias heater off
	08:34:23	514.38	821	Elevate to internal source (stow)
	08:50:23	530.38	862	WFOV BB heater on at temp. 1
	09:06:23	546.38	872	MFOV BB heater on at temp. 1
	10:17:19	617.32	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
01/24/90	10:18:23	618.38	881	Detector bias heater off
	10:18:55	618.92	852	Solar port heaters off
	10:19:27	619.45	821	Elevate to internal source (stow)
	10:19:59	619.98	851	Solar port heaters on
	10:22:07	622.12	882	Detector bias heater on at level 1
	10:25:51	625.85	892	SWICS on at level 3
	10:29:03	629.05	881	Detector bias heater off
	10:33:03	633.05	862	WFOV BB heater on at temp. 1

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
01/24/90	10:33:19	633.32	872	MFOV BB heater on at temp. 1
	10:34:23	634.38	891	SWICS off
	10:47:43	647.72	883	Detector bias heater on at level 2
	10:51:27	651.45	893	SWICS on at level 2
	10:54:39	654.65	881	Detector bias heater off
	10:58:23	658.38	863	WFOV BB heater on at temp. 2
	10:58:55	658.92	873	MFOV BB heater on at temp. 2
	10:59:59	659.98	891	SWICS off
	11:13:19	673.32	884	Detector bias heater on at level 3
	11:17:03	677.05	894	SWICS on at level 1
	11:19:11	679.18	881	Detector bias heater off
	11:21:51	681.85	852	Solar port heaters off
	11:22:55	682.92	861	WFOV BB heater off
	11:23:27	683.45	871	MFOV BB heater off
	11:23:59	683.98	851	Solar port heaters on
	11:24:31	684.52	891	SWICS off
End internal calibration sequence.				
01/24/90	11:35:11	695.18	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
01/24/90	11:39:27	699.45	419	Address azimuth position A
	11:39:59	699.98	208	Data command, high byte
	11:40:31	700.52	175	Data command, low byte
End azimuth angle load commands (A = 162.38°). Begin solar calibration sequence.				
01/24/90	11:41:35	701.58	822	Elevate to solar ports (Sun)
	12:13:35	733.58	814	Azimuth to position A
	12:14:39	734.65	883	Detector bias heater on at level 2

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
01/24/90	12:30:39	750.65	831	SMA shutter cycle on
	13:05:51	785.85	832	SMA shutter cycle off
	13:06:23	786.38	881	Detector bias heater off
	13:25:35	805.58	882	Detector bias heater on at level 1
	13:28:15	808.25	881	Detector bias heater off
	13:28:47	808.78	883	Detector bias heater on at level 2
	13:31:59	811.98	884	Detector bias heater on at level 3
	13:34:39	814.65	881	Detector bias heater off
	13:35:11	815.18	852	Solar port heaters off
	13:51:11	831.18	851	Solar port heaters on
	13:51:43	831.72	821	Elevate to internal source (stow)
	14:55:43	895.72	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
01/24/90	16:19:59	979.98	882	Detector bias heater on at level 1
	16:22:39	982.65	881	Detector bias heater off
	16:23:11	983.18	883	Detector bias heater on at level 2
	16:25:51	985.85	881	Detector bias heater off
	16:26:23	986.38	884	Detector bias heater on at level 3
	16:29:03	989.05	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
01/31/90	08:35:59	515.98	882	Detector bias heater on at level 1
	08:38:39	518.65	881	Detector bias heater off
	08:39:11	519.18	883	Detector bias heater on at level 2
	08:41:51	521.85	881	Detector bias heater off
	08:42:23	522.38	884	Detector bias heater on at level 3

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
01/31/90	08:45:03	525.05	881	Detector bias heater off
	09:16:31	556.52	821	Elevate to internal source (stow)
	09:32:31	572.52	862	WFOV BB heater on at temp. 1
	09:48:31	588.52	872	MFOV BB heater on at temp. 1
	10:59:27	659.45	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
01/31/90	11:00:31	660.52	881	Detector bias heater off
	11:01:03	661.05	852	Solar port heaters off
	11:01:35	661.58	821	Elevate to internal source (stow)
	11:02:07	662.12	851	Solar port heaters on
	11:04:15	664.25	882	Detector bias heater on at level 1
	11:07:59	667.98	892	SWICS on at level 3
	11:11:11	671.18	881	Detector bias heater off
	11:14:55	674.92	862	WFOV BB heater on at temp. 1
	11:15:27	675.45	872	MFOV BB heater on at temp. 1
	11:16:31	676.52	891	SWICS off
	11:29:51	689.85	883	Detector bias heater on at level 2
	11:33:35	693.58	893	SWICS on at level 2
	11:36:47	696.78	881	Detector bias heater off
	11:40:31	700.52	863	WFOV BB heater on at temp. 2
	11:41:03	701.05	873	MFOV BB heater on at temp. 2
	11:42:07	702.12	891	SWICS off
	11:55:27	715.45	884	Detector bias heater on at level 3
	11:59:11	719.18	894	SWICS on at level 1
	12:01:19	721.32	881	Detector bias heater off
	12:03:59	723.98	852	Solar port heaters off

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
01/31/90	12:05:03	725.05	861	WFOV BB heater off
	12:05:35	725.58	871	MFOV BB heater off
	12:06:07	726.12	851	Solar port heaters on
	12:06:39	726.65	891	SWICS off
End internal calibration sequence.				
01/31/90	12:17:19	737.32	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
01/31/90	12:21:35	741.58	419	Address azimuth position A
	12:22:07	742.12	208	Data command, high byte
	12:22:39	742.65	187	Data command, low byte
End azimuth angle load commands (A = 163.73°). Begin solar calibration sequence.				
01/31/90	12:23:43	743.72	822	Elevate to solar ports (Sun)
	12:55:43	775.72	814	Azimuth to position A
	12:56:47	776.78	883	Detector bias heater on at level 2
	13:12:47	792.78	831	SMA shutter cycle on
	13:47:59	827.98	832	SMA shutter cycle off
	13:48:31	828.52	881	Detector bias heater off
	14:07:43	847.72	882	Detector bias heater on at level 1
	14:10:23	850.38	881	Detector bias heater off
	14:10:55	850.92	883	Detector bias heater on at level 2
	14:13:35	853.58	881	Detector bias heater off
	14:14:07	854.12	884	Detector bias heater on at level 3
	14:16:47	856.78	881	Detector bias heater off
	14:17:19	857.32	852	Solar port heaters off
	14:33:19	873.32	851	Solar port heaters on
	14:33:51	873.85	821	Elevate to internal source (stow)

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
01/31/90	15:37:51	937.85	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
01/31/90	17:02:07	1022.12	882	Detector bias heater on at level 1
	17:04:47	1024.78	881	Detector bias heater off
	17:05:19	1025.32	883	Detector bias heater on at level 2
	17:07:59	1027.98	881	Detector bias heater off
	17:08:31	1028.52	884	Detector bias heater on at level 3
	17:11:11	1031.18	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
02/07/90	07:35:43	455.72	882	Detector bias heater on at level 1
	07:38:23	458.38	881	Detector bias heater off
	07:38:55	458.92	883	Detector bias heater on at level 2
	07:41:35	461.58	881	Detector bias heater off
	07:42:07	462.12	884	Detector bias heater on at level 3
	07:44:47	464.78	881	Detector bias heater off
	08:16:15	496.25	821	Elevate to internal source (stow)
	08:32:15	512.25	862	WFOV BB heater on at temp. 1
	08:48:15	528.25	872	MFOV BB heater on at temp. 1
	09:59:11	599.18	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
02/07/90	10:00:15	600.25	881	Detector bias heater off
	10:00:47	600.78	852	Solar port heaters off
	10:01:19	601.32	821	Elevate to internal source (stow)
	10:01:51	601.85	851	Solar port heaters on

Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
02/07/90	10:03:59	603.98	882	Detector bias heater on at level 1
	10:07:43	607.72	892	SWICS on at level 3
	10:10:55	610.92	881	Detector bias heater off
	10:14:39	614.65	862	WFOV BB heater on at temp. 1
	10:15:11	615.18	872	MFOV BB heater on at temp. 1
	10:16:15	616.25	891	SWICS off
	10:29:35	629.58	883	Detector bias heater on at level 2
	10:33:19	633.32	893	SWICS on at level 2
	10:36:31	636.52	881	Detector bias heater off
	10:40:15	640.25	863	WFOV BB heater on at temp. 2
	10:40:47	640.78	873	MFOV BB heater on at temp. 2
	10:41:51	641.85	891	SWICS off
	10:55:11	655.18	884	Detector bias heater on at level 3
	10:58:55	658.92	894	SWICS on at level 1
	11:01:03	661.05	881	Detector bias heater off
	11:03:43	663.72	852	Solar port heaters off
	11:04:47	664.78	861	WFOV BB heater off
	11:05:19	665.32	871	MFOV BB heater off
	11:05:51	665.85	851	Solar port heaters on
	11:06:23	666.38	891	SWICS off
End internal calibration sequence.				
02/07/90	11:17:03	677.05	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
02/07/90	11:21:19	681.32	419	Address azimuth position A
	11:21:51	681.85	208	Data command, high byte
	11:22:23	682.38	197	Data command, low byte

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
End azimuth angle load commands (A = 164.93°). Begin solar calibration sequence.				
02/07/90	11:23:27	683.45	822	Elevate to solar ports (Sun)
	11:55:27	715.45	814	Azimuth to position A
	11:56:31	716.52	883	Detector bias heater on at level 2
	12:12:31	732.52	831	SMA shutter cycle on
	12:47:43	767.72	832	SMA shutter cycle off
	12:48:15	768.25	881	Detector bias heater off
	13:07:27	787.45	882	Detector bias heater on at level 1
	13:10:07	790.12	881	Detector bias heater off
	13:10:39	790.65	883	Detector bias heater on at level 2
	13:13:19	793.32	881	Detector bias heater off
	13:13:51	793.85	884	Detector bias heater on at level 3
	13:16:31	796.52	881	Detector bias heater off
	13:17:03	797.05	852	Solar port heaters off
	13:33:03	813.05	851	Solar port heaters on
	13:33:35	813.58	821	Elevate to internal source (stow)
	14:37:35	877.58	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
02/07/90	16:01:51	961.85	882	Detector bias heater on at level 1
	16:04:31	964.52	881	Detector bias heater off
	16:05:03	965.05	883	Detector bias heater on at level 2
	16:07:43	967.72	881	Detector bias heater off
	16:08:15	968.25	884	Detector bias heater on at level 3
	16:10:55	970.92	881	Detector bias heater off
End postcalibration sequence.				

Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
		Begin preinternal calibration sequence.		
02/14/90	09:00:31	540.52	821	Elevate to internal source (stow)
	09:39:43	579.72	872	MFOV BB heater on at temp. 1
	10:39:43	639.72	823	Elevate to nadir (Earth)
	10:40:47	640.78	881	Detector bias heater off
	10:41:19	641.32	852	Solar port heaters off
	10:41:51	641.85	821	Elevate to internal source (stow)
	10:42:23	642.38	851	Solar port heaters on
		End preinternal calibration sequence. Begin internal calibration sequence.		
02/14/90	10:44:31	644.52	882	Detector bias heater on at level 1
	10:48:15	648.25	892	SWICS on at level 3
	10:51:27	651.45	881	Detector bias heater off
	10:55:11	655.18	862	WFOV BB heater on at temp. 1
	10:55:43	655.72	872	MFOV BB heater on at temp. 1
	10:56:47	656.78	891	SWICS off
	11:10:07	670.12	883	Detector bias heater on at level 2
	11:13:51	673.85	893	SWICS on at level 2
	11:17:03	677.05	881	Detector bias heater off
	11:20:47	680.78	863	WFOV BB heater on at temp. 2
	11:21:19	681.32	873	MFOV BB heater on at temp. 2
	11:22:23	682.38	891	SWICS off
	11:35:43	695.72	884	Detector bias heater on at level 3
	11:39:27	699.45	894	SWICS on at level 1
	11:41:35	701.58	881	Detector bias heater off
	11:44:15	704.25	852	Solar port heaters off
	11:45:19	705.32	861	WFOV BB heater off

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
02/14/90	11:45:51	705.85	871	MFOV BB heater off
	11:46:23	706.38	851	Solar port heaters on
	11:46:55	706.92	891	SWICS off
	11:57:35	717.58	823	Elevate to nadir (Earth)
End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
02/14/90	12:01:51	721.85	419	Address azimuth position A
	12:02:23	722.38	208	Data command, high byte
	12:02:55	722.92	1A2	Data command, low byte
End azimuth angle load commands (A = 165.75°). Begin solar calibration sequence.				
02/14/90	12:03:59	723.98	822	Elevate to solar ports (Sun)
	13:47:27	827.45	881	Detector bias heater off
	13:47:59	827.98	882	Detector bias heater on at level 1
	13:50:39	830.65	881	Detector bias heater off
	13:51:11	831.18	883	Detector bias heater on at level 2
	13:53:51	833.85	881	Detector bias heater off
	13:54:23	834.38	884	Detector bias heater on at level 3
	13:57:03	837.05	881	Detector bias heater off
	13:57:35	837.58	852	Solar port heaters off
	14:13:35	853.58	851	Solar port heaters on
	14:14:07	854.12	821	Elevate to internal source (stow)
	15:18:07	918.12	823	Elevate to nadir (Earth)
Entire solar calibration missing by data dropout. End solar calibration sequence. Begin postcalibration sequence.				
02/14/90	17:02:07	1022.12	881	Detector bias heater off
Postcalibration sequence missing by data dropout.				

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
End postcalibration sequence. Begin preinternal calibration sequence.
02/21/90	07:14:55	434.92	882	Detector bias heater on at level 1
	07:17:35	437.58	881	Detector bias heater off
	07:18:07	438.12	883	Detector bias heater on at level 2
	07:20:47	440.78	881	Detector bias heater off
	07:21:19	441.32	884	Detector bias heater on at level 3
	07:23:59	443.98	881	Detector bias heater off
	07:55:27	475.45	821	Elevate to internal source (stow)
	08:11:27	491.45	862	WFOV BB heater on at temp. 1
	08:27:27	507.45	872	MFOV BB heater on at temp. 1
	09:38:23	578.38	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.
02/21/90	09:39:27	579.45	881	Detector bias heater off
	09:39:59	579.98	852	Solar port heaters off
	09:40:31	580.52	821	Elevate to internal source (stow)
	09:41:03	581.05	851	Solar port heaters on
	09:43:11	583.18	882	Detector bias heater on at level 1
	09:46:55	586.92	892	SWICS on at level 3
	09:50:07	590.12	881	Detector bias heater off
	09:53:51	593.85	862	WFOV BB heater on at temp. 1
	09:54:23	594.38	872	MFOV BB heater on at temp. 1
	09:55:27	595.45	891	SWICS off
	10:08:47	608.78	883	Detector bias heater on at level 2
	10:12:31	612.52	893	SWICS on at level 2
	10:15:43	615.72	881	Detector bias heater off

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
02/21/90	10:19:27	619.45	863	WFOV BB heater on at temp. 2
	10:19:59	619.98	873	MFOV BB heater on at temp. 2
	10:21:03	621.05	891	SWICS off
	10:34:23	634.38	884	Detector bias heater on at level 3
	10:38:07	638.12	894	SWICS on at level 1
	10:40:15	640.25	881	Detector bias heater off
	10:42:55	642.92	852	Solar port heaters off
	10:43:59	643.98	861	WFOV BB heater off
	10:44:31	644.52	871	MFOV BB heater off
	10:45:03	645.05	851	Solar port heaters on
	10:45:35	645.58	891	SWICS off
End internal calibration sequence.				
02/21/90	10:56:15	656.25	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
02/21/90	11:00:31	660.52	419	Address azimuth position A
	11:01:03	661.05	208	Data command, high byte
	11:01:35	661.58	1A7	Data command, low byte
End azimuth angle load commands (A = 166.12°). Begin solar calibration sequence.				
02/21/90	11:02:39	662.65	822	Elevate to solar ports (Sun)
	11:34:39	694.65	814	Azimuth to position A
	11:35:43	695.72	883	Detector bias heater on at level 2
	11:51:43	711.72	831	SMA shutter cycle on
	12:26:55	746.92	832	SMA shutter cycle off
	12:27:27	747.45	881	Detector bias heater off
	12:46:39	766.65	882	Detector bias heater on at level 1
	12:49:19	769.32	881	Detector bias heater off

Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
02/21/90	12:49:51	769.85	883	Detector bias heater on at level 2
	12:52:31	772.52	881	Detector bias heater off
	12:53:03	773.05	884	Detector bias heater on at level 3
	12:55:43	775.72	881	Detector bias heater off
	12:56:15	776.25	852	Solar port heaters off
	13:12:15	792.25	851	Solar port heaters on
	13:12:47	792.78	821	Elevate to internal source (stow)
	14:16:47	856.78	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
02/21/90	15:41:03	941.05	882	Detector bias heater on at level 1
	15:43:43	943.72	881	Detector bias heater off
	15:44:15	944.25	883	Detector bias heater on at level 2
	15:46:55	946.92	881	Detector bias heater off
	15:47:27	947.45	884	Detector bias heater on at level 3
	15:50:07	950.12	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
02/28/90	08:34:55	514.92	821	Elevate to internal source (stow)
	08:50:55	530.92	862	WFOV BB heater on at temp. 1
	09:06:55	546.92	872	MFOV BB heater on at temp. 1
First sequence missing by fill data and data dropout. End preinternal calibration sequence. Begin internal calibration sequence.				
02/28/90	10:25:19	625.32	882	Detector bias heater on at level 1
	10:26:23	626.38	892	SWICS on at level 3
	10:29:35	629.58	881	Detector bias heater off
	10:33:51	633.85	872	MFOV BB heater on at temp. 1

Table 8. Continued

Date	hr:min:sec	Minutes of day	Hex command	Event description
	Universal time			
02/28/90	10:34:55	634.92	891	SWICS off
	10:48:15	648.25	883	Detector bias heater on at level 2
	10:53:03	653.05	893	SWICS on at level 2
	10:55:11	655.18	881	Detector bias heater off
	10:58:55	658.92	863	WFOV BB heater on at temp. 2
	10:59:27	659.45	873	MFOV BB heater on at temp. 2
	11:00:31	660.52	891	SWICS off
	11:13:51	673.85	884	Detector bias heater on at level 3
	11:17:35	677.58	894	SWICS on at level 1
	11:19:43	679.72	881	Detector bias heater off
	11:22:23	682.38	852	Solar port heaters off
	11:23:27	683.45	861	WFOV BB heater off
	11:23:59	683.98	871	MFOV BB heater off
	11:24:31	684.52	851	Solar port heaters on
	11:25:03	685.05	891	SWICS off
	11:35:43	695.72	823	Elevate to nadir (Earth)
Some commands obscured by fill data and data dropout. End internal calibration sequence. Begin azimuth angle load commands for solar calibration.				
02/28/90	11:39:59	699.98	419	Address azimuth position A
	11:40:31	700.52	208	Data command, high byte
	11:41:03	701.05	1A4	Data command, low byte
End azimuth angle load commands (A = 165.90°). Begin solar calibration sequence.				
02/28/90	11:42:07	702.12	822	Elevate to solar ports (Sun)
	12:14:07	734.12	814	Azimuth to position A
	12:15:11	735.18	883	Detector bias heater on at level 2

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Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
02/28/90	12:31:11	751.18	831	SMA shutter cycle on
	13:06:23	786.38	832	SMA shutter cycle off
	13:06:55	786.92	881	Detector bias heater off
	13:26:07	806.12	882	Detector bias heater on at level 1
	13:28:47	808.78	881	Detector bias heater off
	13:29:19	809.32	883	Detector bias heater on at level 2
	13:31:59	811.98	881	Detector bias heater off
	13:32:31	812.52	884	Detector bias heater on at level 3
	13:35:11	815.18	881	Detector bias heater off
	13:35:43	815.72	852	Solar port heaters off
	13:51:43	831.72	851	Solar port heaters on
	13:52:15	832.25	821	Elevate to internal source (stow)
	14:56:15	896.25	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
02/28/90	16:20:31	980.52	882	Detector bias heater on at level 1
	16:23:11	983.18	881	Detector bias heater off
	16:23:43	983.72	883	Detector bias heater on at level 2
	16:26:23	986.38	881	Detector bias heater off
	16:26:55	986.92	884	Detector bias heater on at level 3
	16:29:35	989.58	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
03/07/90	08:33:19	513.32	882	Detector bias heater on at level 1
	08:35:59	515.98	881	Detector bias heater off
	08:36:31	516.52	883	Detector bias heater on at level 2
	08:39:11	519.18	881	Detector bias heater off

Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
03/07/90	08:39:43	519.72	884	Detector bias heater on at level 3
	08:42:23	522.38	881	Detector bias heater off
	09:13:51	553.85	821	Elevate to internal source (stow)
	09:29:51	569.85	862	WFOV BB heater on at temp. 1
	09:45:51	585.85	872	MFOV BB heater on at temp. 1
	10:56:47	656.78	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
03/07/90	10:57:51	657.85	881	Detector bias heater off
	10:58:23	658.38	852	Solar port heaters off
	10:58:55	658.92	821	Elevate to internal source (stow)
	10:59:27	659.45	851	Solar port heaters on
	11:01:35	661.58	882	Detector bias heater on at level 1
	11:05:19	665.32	892	SWICS on at level 3
	11:08:31	668.52	881	Detector bias heater off
	11:12:15	672.25	862	WFOV BB heater on at temp. 1
	11:12:47	672.78	872	MFOV BB heater on at temp. 1
	11:13:51	673.85	891	SWICS off
	11:27:11	687.18	883	Detector bias heater on at level 2
	11:30:55	690.92	893	SWICS on at level 2
	11:34:07	694.12	881	Detector bias heater off
	11:37:51	697.85	863	WFOV BB heater on at temp. 2
	11:38:23	698.38	873	MFOV BB heater on at temp. 2
	11:39:27	699.45	891	SWICS off
	11:52:47	712.78	884	Detector bias heater on at level 3
	11:56:31	716.52	894	SWICS on at level 1
	11:58:39	718.65	881	Detector bias heater off

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
03/07/90	12:01:19	721.32	852	Solar port heaters off
	12:02:23	722.38	861	WFOV BB heater off
	12:02:55	722.92	871	MFOV BB heater off
	12:03:27	723.45	851	Solar port heaters on
	12:03:59	723.98	891	SWICS off
End internal calibration sequence.				
03/07/90	12:14:39	734.65	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
03/07/90	12:18:55	738.92	419	Address azimuth position A
	12:19:27	739.45	208	Data command, high byte
	12:19:59	739.98	198	Data command, low byte
End azimuth angle load commands (A = 165.00°). Begin solar calibration sequence.				
03/07/90	12:21:03	741.05	822	Elevate to solar ports (Sun)
	12:53:03	773.05	814	Azimuth to position A
	12:54:07	774.12	883	Detector bias heater on at level 2
	13:10:07	790.12	831	SMA shutter cycle on
	14:10:23	850.38	883	Detector bias heater on at level 2
	14:10:55	850.92	881	Detector bias heater off
	14:11:27	851.45	884	Detector bias heater on at level 3
	14:14:07	854.12	881	Detector bias heater off
	14:14:39	854.65	852	Solar port heaters off
	14:30:39	870.65	851	Solar port heaters on
	14:31:11	871.18	821	Elevate to internal source (stow)
	15:35:11	935.18	823	Elevate to nadir (Earth)
Partially obscured by data dropout. End solar calibration sequence.				

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
Begin postcalibration sequence.				
03/07/90	16:59:27	1019.45	882	Detector bias heater on at level 1
	17:02:07	1022.12	881	Detector bias heater off
	17:02:39	1022.65	883	Detector bias heater on at level 2
	17:05:19	1025.32	881	Detector bias heater off
	17:05:51	1025.85	884	Detector bias heater on at level 3
	17:08:31	1028.52	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
03/14/90	07:30:55	450.92	882	Detector bias heater on at level 1
	07:33:35	453.58	881	Detector bias heater off
	07:34:07	454.12	883	Detector bias heater on at level 2
	07:36:47	456.78	881	Detector bias heater off
	07:37:19	457.32	884	Detector bias heater on at level 3
	07:39:59	459.98	881	Detector bias heater off
	08:11:27	491.45	821	Elevate to internal source (stow)
	08:27:27	507.45	862	WFOV BB heater on at temp. 1
	08:43:27	523.45	872	MFOV BB heater on at temp. 1
	09:54:23	594.38	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
03/14/90	09:55:27	595.45	881	Detector bias heater off
	09:55:59	595.98	852	Solar port heaters off
	09:56:31	596.52	821	Elevate to internal source (stow)
	09:57:03	597.05	851	Solar port heaters on
	09:59:11	599.18	882	Detector bias heater on at level 1
	10:02:55	602.92	892	SWICS on at level 3

Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
03/14/90	10:06:07	606.12	881	Detector bias heater off
	10:09:51	609.85	862	WFOV BB heater on at temp. 1
	10:10:23	610.38	872	MFOV BB heater on at temp. 1
	10:11:27	611.45	891	SWICS off
	10:24:47	624.78	883	Detector bias heater on at level 2
	10:28:31	628.52	893	SWICS on at level 2
	10:31:43	631.72	881	Detector bias heater off
	10:35:27	635.45	863	WFOV BB heater on at temp. 2
	10:35:59	635.98	873	MFOV BB heater on at temp. 2
	10:37:03	637.05	891	SWICS off
	10:50:23	650.38	884	Detector bias heater on at level 3
	10:54:07	654.12	894	SWICS on at level 1
	10:56:15	656.25	881	Detector bias heater off
	10:58:55	658.92	852	Solar port heaters off
	10:59:59	659.98	861	WFOV BB heater off
	11:00:31	660.52	871	MFOV BB heater off
	11:01:03	661.05	851	Solar port heaters on
	11:01:35	661.58	891	SWICS off
End internal calibration sequence.				
03/14/90	11:12:15	672.25	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
03/14/90	11:16:31	676.52	419	Address azimuth position A
	11:17:03	677.05	208	Data command, high byte
	11:17:35	677.58	186	Data command, low byte
End azimuth angle load commands (A = 163.65°). Begin solar calibration sequence.				
03/14/90	11:18:39	678.65	822	Elevate to solar ports (Sun)

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
03/14/90	11:50:39	710.65	814	Azimuth to position A
	11:51:43	711.72	883	Detector bias heater on at level 2
	12:07:43	727.72	831	SMA shutter cycle on
	12:42:55	762.92	832	SMA shutter cycle off
	12:43:27	763.45	881	Detector bias heater off
	13:02:39	782.65	882	Detector bias heater on at level 1
	13:05:19	785.32	881	Detector bias heater off
	13:05:51	785.85	883	Detector bias heater on at level 2
	13:08:31	788.52	881	Detector bias heater off
	13:09:03	789.05	884	Detector bias heater on at level 3
	13:11:43	791.72	881	Detector bias heater off
	13:12:15	792.25	852	Solar port heaters off
	13:28:15	808.25	851	Solar port heaters on
	13:28:47	808.78	821	Elevate to internal source (stow)
	14:32:47	872.78	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
03/14/90	15:57:03	957.05	882	Detector bias heater on at level 1
	15:59:43	959.72	881	Detector bias heater off
	16:00:15	960.25	883	Detector bias heater on at level 2
	16:02:55	962.92	881	Detector bias heater off
	16:03:27	963.45	884	Detector bias heater on at level 3
	16:06:07	966.12	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
03/21/90	08:09:51	489.85	882	Detector bias heater on at level 1
	08:12:31	492.52	881	Detector bias heater off

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
03/21/90	08:13:03	493.05	883	Detector bias heater on at level 2
	08:15:43	495.72	881	Detector bias heater off
	08:16:15	496.25	884	Detector bias heater on at level 3
	08:18:55	498.92	881	Detector bias heater off
	08:50:23	530.38	821	Elevate to internal source (stow)
	09:06:23	546.38	862	WFOV BB heater on at temp. 1
	09:22:23	562.38	872	MFOV BB heater on at temp. 1
	10:33:19	633.32	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
03/21/90	10:34:23	634.38	881	Detector bias heater off
	10:34:55	634.92	852	Solar port heaters off
	10:35:27	635.45	821	Elevate to internal source (stow)
	10:35:59	635.98	851	Solar port heaters on
	10:38:07	638.12	882	Detector bias heater on at level 1
	10:41:51	641.85	892	SWICS on at level 3
	10:45:03	645.05	881	Detector bias heater off
	10:48:47	648.78	862	WFOV BB heater on at temp. 1
	10:49:19	649.32	872	MFOV BB heater on at temp. 1
	10:50:23	650.38	891	SWICS off
	11:03:43	663.72	883	Detector bias heater on at level 2
	11:07:27	667.45	893	SWICS on at level 2
	11:10:39	670.65	881	Detector bias heater off
	11:14:23	674.38	863	WFOV BB heater on at temp. 2
	11:14:55	674.92	873	MFOV BB heater on at temp. 2
	11:15:59	675.98	891	SWICS off
	11:29:19	689.32	884	Detector bias heater on at level 3

Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
03/21/90	11:33:03	693.05	894	SWICS on at level 1
	11:35:11	695.18	881	Detector bias heater off
	11:37:51	697.85	852	Solar port heaters off
	11:38:55	698.92	861	WFOV BB heater off
	11:39:27	699.45	871	MFOV BB heater off
	11:39:59	699.98	851	Solar port heaters on
	11:40:31	700.52	891	SWICS off
End internal calibration sequence.				
03/21/90	11:51:11	711.18	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
03/21/90	11:55:27	715.45	419	Address azimuth position A
	11:55:59	715.98	208	Data command, high byte
	11:56:31	716.52	16E	Data command, low byte
End azimuth angle load commands (A = 161.85°). Begin solar calibration sequence.				
03/21/90	11:57:35	717.58	822	Elevate to solar ports (Sun)
	12:29:35	749.58	814	Azimuth to position A
	12:30:39	750.65	883	Detector bias heater on at level 2
	12:46:39	766.65	831	SMA shutter cycle on
	13:21:51	801.85	832	SMA shutter cycle off
	13:22:23	802.38	881	Detector bias heater off
	13:41:35	821.58	882	Detector bias heater on at level 1
	13:44:15	824.25	881	Detector bias heater off
	13:44:47	824.78	883	Detector bias heater on at level 2
	13:47:27	827.45	881	Detector bias heater off
	13:47:59	827.98	884	Detector bias heater on at level 3
	13:50:39	830.65	881	Detector bias heater off

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
03/21/90	13:51:11	831.18	852	Solar port heaters off
	14:07:11	847.18	851	Solar port heaters on
	14:07:43	847.72	821	Elevate to internal source (stow)
	15:11:43	911.72	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
03/21/90	16:35:59	995.98	882	Detector bias heater on at level 1
	16:38:39	998.65	881	Detector bias heater off
	16:39:11	999.18	883	Detector bias heater on at level 2
	16:41:51	1001.85	881	Detector bias heater off
	16:42:23	1002.38	884	Detector bias heater on at level 3
	16:45:03	1005.05	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
03/28/90	07:07:59	427.98	882	Detector bias heater on at level 1
	07:10:39	430.65	881	Detector bias heater off
	07:11:11	431.18	883	Detector bias heater on at level 2
	07:13:51	433.85	881	Detector bias heater off
	07:14:23	434.38	884	Detector bias heater on at level 3
	07:17:03	437.05	881	Detector bias heater off
	07:48:31	468.52	821	Elevate to internal source (stow)
	08:04:31	484.52	862	WFOV BB heater on at temp. 1
	08:20:31	500.52	872	MFOV BB heater on at temp. 1
	09:31:27	571.45	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
03/28/90	09:32:31	572.52	881	Detector bias heater off

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
03/28/90	09:33:03	573.05	852	Solar port heaters off
	09:33:35	573.58	821	Elevate to internal source (stow)
	09:34:07	574.12	851	Solar port heaters on
	09:36:15	576.25	882	Detector bias heater on at level 1
	09:39:59	579.98	892	SWICS on at level 3
	09:43:11	583.18	881	Detector bias heater off
	09:46:55	586.92	862	WFOV BB heater on at temp. 1
	09:47:27	587.45	872	MFOV BB heater on at temp. 1
	09:48:31	588.52	891	SWICS off
	10:01:51	601.85	883	Detector bias heater on at level 2
	10:05:35	605.58	893	SWICS on at level 2
	10:08:47	608.78	881	Detector bias heater off
	10:12:31	612.52	863	WFOV BB heater on at temp. 2
	10:13:03	613.05	873	MFOV BB heater on at temp. 2
	10:14:07	614.12	891	SWICS off
	10:27:27	627.45	884	Detector bias heater on at level 3
	10:31:11	631.18	894	SWICS on at level 1
	10:33:19	633.32	881	Detector bias heater off
	10:35:59	635.98	852	Solar port heaters off
	10:37:03	637.05	861	WFOV BB heater off
	10:37:35	637.58	871	MFOV BB heater off
	10:38:07	638.12	851	Solar port heaters on
	10:38:39	638.65	891	SWICS off
End internal calibration sequence.				
03/28/90	10:49:19	649.32	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
03/28/90	10:53:35	653.58	419	Address azimuth position A
	10:54:07	654.12	208	Data command, high byte
	10:54:39	654.65	153	Data command, low byte
End azimuth angle load commands (A = 159.83°). Begin solar calibration sequence.				
03/28/90	10:55:43	655.72	822	Elevate to solar ports (Sun)
	11:27:43	687.72	814	Azimuth to position A
	11:28:47	688.78	883	Detector bias heater on at level 2
	11:44:47	704.78	831	SMA shutter cycle on
	12:19:59	739.98	832	SMA shutter cycle off
	12:20:31	740.52	881	Detector bias heater off
	12:39:43	759.72	882	Detector bias heater on at level 1
	12:42:23	762.38	881	Detector bias heater off
	12:42:55	762.92	883	Detector bias heater on at level 2
	12:45:35	765.58	881	Detector bias heater off
	12:46:07	766.12	884	Detector bias heater on at level 3
	12:48:47	768.78	881	Detector bias heater off
	12:49:19	769.32	852	Solar port heaters off
	13:05:19	785.32	851	Solar port heaters on
	13:05:51	785.85	821	Elevate to internal source (stow)
	14:09:51	849.85	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
03/28/90	15:34:07	934.12	882	Detector bias heater on at level 1
	15:36:47	936.78	881	Detector bias heater off
	15:37:19	937.32	883	Detector bias heater on at level 2
	15:39:59	939.98	881	Detector bias heater off

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
03/28/90	15:40:31	940.52	884	Detector bias heater on at level 3
	15:43:11	943.18	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
04/04/90	07:47:27	467.45	882	Detector bias heater on at level 1
	07:50:07	470.12	881	Detector bias heater off
	07:50:39	470.65	883	Detector bias heater on at level 2
	07:53:19	473.32	881	Detector bias heater off
	07:53:51	473.85	884	Detector bias heater on at level 3
	07:56:31	476.52	881	Detector bias heater off
	08:27:59	507.98	821	Elevate to internal source (stow)
	08:43:59	523.98	862	WFOV BB heater on at temp. 1
	08:59:59	539.98	872	MFOV BB heater on at temp. 1
	10:10:55	610.92	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
04/04/90	10:11:59	611.98	881	Detector bias heater off
	10:12:31	612.52	852	Solar port heaters off
	10:13:03	613.05	821	Elevate to internal source (stow)
	10:13:35	613.58	851	Solar port heaters on
	10:15:43	615.72	882	Detector bias heater on at level 1
	10:19:27	619.45	892	SWICS on at level 3
	10:22:39	622.65	881	Detector bias heater off
	10:26:23	626.38	862	WFOV BB heater on at temp. 1
	10:26:55	626.92	872	MFOV BB heater on at temp. 1
	10:27:59	627.98	891	SWICS off
	10:41:19	641.32	883	Detector bias heater on at level 2

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Table 8. Continued

Date	Universal time hr:min:sec	Universal time Minutes of day	Hex command	Event description
04/04/90	10:45:03	645.05	893	SWICS on at level 2
	10:48:15	648.25	881	Detector bias heater off
	10:51:59	651.98	863	WFOV BB heater on at temp. 2
	10:52:31	652.52	873	MFOV BB heater on at temp. 2
	10:53:35	653.58	891	SWICS off
	11:06:55	666.92	884	Detector bias heater on at level 3
	11:10:39	670.65	894	SWICS on at level 1
	11:12:47	672.78	881	Detector bias heater off
	11:15:27	675.45	852	Solar port heaters off
	11:16:31	676.52	861	WFOV BB heater off
	11:17:03	677.05	871	MFOV BB heater off
	11:17:35	677.58	851	Solar port heaters on
	11:18:07	678.12	891	SWICS off
End internal calibration sequence.				
04/04/90	11:28:47	688.78	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
04/04/90	11:33:03	693.05	419	Address azimuth position A
	11:33:35	693.58	208	Data command, high byte
	11:34:07	694.12	137	Data command, low byte
End azimuth angle load commands (A = 157.73°). Begin solar calibration sequence.				
04/04/90	11:35:11	695.18	822	Elevate to solar ports (Sun)
	12:07:11	727.18	814	Azimuth to position A
	12:08:15	728.25	883	Detector bias heater on at level 2
	12:24:15	744.25	831	SMA shutter cycle on
	12:59:27	779.45	832	SMA shutter cycle off
	12:59:59	779.98	881	Detector bias heater off

Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
04/04/90	13:19:11	799.18	882	Detector bias heater on at level 1
	13:21:51	801.85	881	Detector bias heater off
	13:22:23	802.38	883	Detector bias heater on at level 2
	13:25:03	805.05	881	Detector bias heater off
	13:25:35	805.58	884	Detector bias heater on at level 3
	13:28:15	808.25	881	Detector bias heater off
	13:28:47	808.78	852	Solar port heaters off
	13:44:47	824.78	851	Solar port heaters on
	13:45:19	825.32	821	Elevate to internal source (stow)
	15:23:27	923.45	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
04/04/90	16:13:35	973.58	882	Detector bias heater on at level 1
	16:16:15	976.25	881	Detector bias heater off
	16:16:47	976.78	883	Detector bias heater on at level 2
	16:19:27	979.45	881	Detector bias heater off
	16:19:59	979.98	884	Detector bias heater on at level 3
	16:22:39	982.65	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
04/11/90	08:26:55	506.92	882	Detector bias heater on at level 1
	08:29:35	509.58	881	Detector bias heater off
	08:30:07	510.12	883	Detector bias heater on at level 2
	08:32:47	512.78	881	Detector bias heater off
	08:33:19	513.32	884	Detector bias heater on at level 3
	08:35:59	515.98	881	Detector bias heater off
End preinternal calibration sequence.				

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
Begin internal calibration sequence.				
04/11/90	09:07:27	547.45	821	Elevate to internal source (stow)
	10:56:15	656.25	882	Detector bias heater on at level 1
	10:58:55	658.92	892	SWICS on at level 3
	11:02:07	662.12	881	Detector bias heater off
.	11:05:51	665.85	862	WFOV BB heater on at temp. 1
	11:06:23	666.38	872	MFOV BB heater on at temp. 1
	11:07:27	667.45	891	SWICS off
	11:20:47	680.78	883	Detector bias heater on at level 2
	11:24:31	684.52	893	SWICS on at level 2
	11:28:15	688.25	881	Detector bias heater off
	11:31:27	691.45	863	WFOV BB heater on at temp. 2
	11:31:59	691.98	873	MFOV BB heater on at temp. 2
	11:33:03	693.05	891	SWICS off
	11:46:23	706.38	884	Detector bias heater on at level 3
	11:50:07	710.12	894	SWICS on at level 1
	11:52:15	712.25	881	Detector bias heater off
	11:54:55	714.92	852	Solar port heaters off
	11:55:59	715.98	861	WFOV BB heater off
	11:56:31	716.52	871	MFOV BB heater off
	11:57:03	717.05	851	Solar port heaters on
	11:57:35	717.58	891	SWICS off
End internal calibration sequence.				
04/11/90	12:08:15	728.25	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
04/11/90	12:12:31	732.52	419	Address azimuth position A

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
04/11/90	12:13:03	733.05	208	Data command, high byte
	12:13:35	733.58	11A	Data command, low byte
End azimuth angle load commands (A = 155.55°). Begin solar calibration sequence.				
04/11/90	12:14:39	734.65	822	Elevate to solar ports (Sun)
	12:46:39	766.65	814	Azimuth to position A
	12:47:43	767.72	883	Detector bias heater on at level 2
	13:03:43	783.72	831	SMA shutter cycle on
	13:38:55	818.92	832	SMA shutter cycle off
	13:39:27	819.45	881	Detector bias heater off
	13:58:39	838.65	882	Detector bias heater on at level 1
	14:01:19	841.32	881	Detector bias heater off
	14:01:51	841.85	883	Detector bias heater on at level 2
	14:04:31	844.52	881	Detector bias heater off
	14:05:03	845.05	884	Detector bias heater on at level 3
	14:07:43	847.72	881	Detector bias heater off
	14:08:15	848.25	852	Solar port heaters off
	14:24:15	864.25	851	Solar port heaters on
	14:24:47	864.78	821	Elevate to internal source (stow)
	15:28:47	928.78	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
04/11/90	16:53:03	1013.05	882	Detector bias heater on at level 1
	16:55:43	1015.72	881	Detector bias heater off
	16:56:15	1016.25	883	Detector bias heater on at level 2
	16:58:55	1018.92	881	Detector bias heater off
	16:59:27	1019.45	884	Detector bias heater on at level 3

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
04/11/90	17:02:07	1022.12	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
04/18/90	07:25:35	445.58	882	Detector bias heater on at level 1
	07:28:15	448.25	881	Detector bias heater off
	07:28:47	448.78	883	Detector bias heater on at level 2
	07:31:27	451.45	881	Detector bias heater off
	07:31:59	451.98	884	Detector bias heater on at level 3
	07:34:39	454.65	881	Detector bias heater off
	08:06:07	486.12	821	Elevate to internal source (stow)
	08:22:07	502.12	862	WFOV BB heater on at temp. 1
	08:38:07	518.12	872	MFOV BB heater on at temp. 1
	09:49:03	589.05	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
04/18/90	09:50:07	590.12	881	Detector bias heater off
	09:50:39	590.65	852	Solar port heaters off
	09:51:11	591.18	821	Elevate to internal source (stow)
	09:51:43	591.72	851	Solar port heaters on
	09:53:51	593.85	882	Detector bias heater on at level 1
	09:57:35	597.58	892	SWICS on at level 3
	10:00:47	600.78	881	Detector bias heater off
	10:04:31	604.52	862	WFOV BB heater on at temp. 1
	10:05:03	605.05	872	MFOV BB heater on at temp. 1
	10:06:07	606.12	891	SWICS off
	10:19:27	619.45	883	Detector bias heater on at level 2
	10:23:11	623.18	893	SWICS on at level 2

Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
04/18/90	10:26:23	626.38	881	Detector bias heater off
	10:30:07	630.12	863	WFOV BB heater on at temp. 2
	10:30:39	630.65	873	MFOV BB heater on at temp. 2
	10:31:43	631.72	891	SWICS off
	10:45:03	645.05	884	Detector bias heater on at level 3
	10:48:47	648.78	894	SWICS on at level 1
	10:50:55	650.92	881	Detector bias heater off
	10:53:35	653.58	852	Solar port heaters off
	10:54:39	654.65	861	WFOV BB heater off
	10:55:11	655.18	871	MFOV BB heater off
	10:55:43	655.72	851	Solar port heaters on
	10:56:15	656.25	891	SWICS off
End internal calibration sequence.			
04/18/90	11:06:55	666.92	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.			
04/18/90	11:11:11	671.18	419	Address azimuth position A
	11:11:43	671.72	207	Data command, high byte
	11:12:15	672.25	1FE	Data command, low byte
End azimuth angle load commands (A = 153.45°). Begin solar calibration sequence.			
04/18/90	11:13:19	673.32	822	Elevate to solar ports (Sun)
	11:46:23	706.38	883	Detector bias heater on at level 2
	12:02:23	722.38	831	SMA shutter cycle on
	12:37:35	757.58	832	SMA shutter cycle off
	12:38:07	758.12	881	Detector bias heater off
	12:57:19	777.32	882	Detector bias heater on at level 1
	12:59:59	779.98	881	Detector bias heater off

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
04/18/90	13:00:31	780.52	883	Detector bias heater on at level 2
	13:03:11	783.18	881	Detector bias heater off
	13:03:43	783.72	884	Detector bias heater on at level 3
	13:06:23	786.38	881	Detector bias heater off
	13:06:55	786.92	852	Solar port heaters off
	13:22:55	802.92	851	Solar port heaters on
	13:23:27	803.45	821	Elevate to internal source (stow)
	14:27:27	867.45	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
04/18/90	15:51:43	951.72	882	Detector bias heater on at level 1
	15:54:23	954.38	881	Detector bias heater off
	15:54:55	954.92	883	Detector bias heater on at level 2
	15:57:35	957.58	881	Detector bias heater off
	15:58:07	958.12	884	Detector bias heater on at level 3
	16:00:47	960.78	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
04/25/90	08:05:35	485.58	882	Detector bias heater on at level 1
	08:08:15	488.25	881	Detector bias heater off
	08:08:47	488.78	883	Detector bias heater on at level 2
	08:11:27	491.45	881	Detector bias heater off
	08:11:59	491.98	884	Detector bias heater on at level 3
	08:14:39	494.65	881	Detector bias heater off
	08:46:07	526.12	821	Elevate to internal source (stow)
	09:02:07	542.12	862	WFOV BB heater on at temp. 1
	09:18:07	558.12	872	MFOV BB heater on at temp. 1

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
04/25/90	10:29:03	629.05	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
04/25/90	10:30:07	630.12	881	Detector bias heater off
	10:30:39	630.65	852	Solar port heaters off
	10:31:11	631.18	821	Elevate to internal source (stow)
	10:31:43	631.72	851	Solar port heaters on
	10:33:51	633.85	882	Detector bias heater on at level 1
	10:37:35	637.58	892	SWICS on at level 3
	10:40:47	640.78	881	Detector bias heater off
	10:44:31	644.52	862	WFOV BB heater on at temp. 1
	10:45:03	645.05	872	MFOV BB heater on at temp. 1
	10:46:07	646.12	891	SWICS off
	10:59:27	659.45	883	Detector bias heater on at level 2
	11:03:11	663.18	893	SWICS on at level 2
	11:06:23	666.38	881	Detector bias heater off
	11:10:07	670.12	863	WFOV BB heater on at temp. 2
	11:10:39	670.65	873	MFOV BB heater on at temp. 2
	11:11:43	671.72	891	SWICS off
	11:25:03	685.05	884	Detector bias heater on at level 3
	11:28:47	688.78	894	SWICS on at level 1
	11:30:55	690.92	881	Detector bias heater off
	11:33:35	693.58	852	Solar port heaters off
	11:34:39	694.65	861	WFOV BB heater off
	11:35:11	695.18	871	MFOV BB heater off
	11:35:43	695.72	851	Solar port heaters on
	11:36:15	696.25	891	SWICS off

Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
End internal calibration sequence.
04/25/90	11:46:55	706.92	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.
04/25/90	11:51:11	711.18	419	Address azimuth position A
	11:51:43	711.72	207	Data command, high byte
	11:52:15	712.25	1E3	Data command, low byte
End azimuth angle load commands (A = 151.43°). Begin solar calibration sequence.
04/25/90	11:53:19	713.32	822	Elevate to solar ports (Sun)
	12:25:19	745.32	814	Azimuth to position A
	12:26:23	746.38	883	Detector bias heater on at level 2
	12:42:23	762.38	831	SMA shutter cycle on
	13:17:35	797.58	832	SMA shutter cycle off
	13:18:07	798.12	881	Detector bias heater off
	13:37:19	817.32	882	Detector bias heater on at level 1
	13:39:59	819.98	881	Detector bias heater off
	13:40:31	820.52	883	Detector bias heater on at level 2
	13:43:11	823.18	881	Detector bias heater off
	13:43:43	823.72	884	Detector bias heater on at level 3
	13:46:23	826.38	881	Detector bias heater off
	13:46:55	826.92	852	Solar port heaters off
	14:02:55	842.92	851	Solar port heaters on
	14:03:27	843.45	821	Elevate to internal source (stow)
	15:07:27	907.45	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.
04/25/90	16:31:43	991.72	882	Detector bias heater on at level 1

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
04/25/90	16:34:23	994.38	881	Detector bias heater off
	16:34:55	994.92	883	Detector bias heater on at level 2
	16:37:35	997.58	881	Detector bias heater off
	16:38:07	998.12	884	Detector bias heater on at level 3
	16:40:47	1000.78	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
05/02/90	08:45:35	525.58	882	Detector bias heater on at level 1
	08:48:15	528.25	881	Detector bias heater off
	08:48:47	528.78	883	Detector bias heater on at level 2
	08:51:27	531.45	881	Detector bias heater off
	08:51:59	531.98	884	Detector bias heater on at level 3
	08:54:39	534.65	881	Detector bias heater off
	09:26:07	566.12	821	Elevate to internal source (stow)
	09:42:07	582.12	862	WFOV BB heater on at temp. 1
	09:58:07	598.12	872	MFOV BB heater on at temp. 1
	11:09:03	669.05	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
05/02/90	11:10:07	670.12	881	Detector bias heater off
	11:10:39	670.65	852	Solar port heaters off
	11:11:11	671.18	821	Elevate to internal source (stow)
	11:11:43	671.72	851	Solar port heaters on
	11:13:51	673.85	882	Detector bias heater on at level 1
	11:17:35	677.58	892	SWICS on at level 3
	11:20:47	680.78	881	Detector bias heater off
	11:24:31	684.52	862	WFOV BB heater on at temp. 1

Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
05/02/90	11:25:03	685.05	872	MFOV BB heater on at temp. 1
	11:26:07	686.12	891	SWICS off
	11:39:27	699.45	883	Detector bias heater on at level 2
	11:43:11	703.18	893	SWICS on at level 2
	11:46:23	706.38	881	Detector bias heater off
	11:50:07	710.12	863	WFOV BB heater on at temp. 2
	11:50:39	710.65	873	MFOV BB heater on at temp. 2
	11:51:43	711.72	891	SWICS off
	12:05:03	725.05	884	Detector bias heater on at level 3
	12:08:47	728.78	894	SWICS on at level 1
	12:10:55	730.92	881	Detector bias heater off
	12:13:35	733.58	852	Solar port heaters off
	12:14:39	734.65	861	WFOV BB heater off
	12:15:11	735.18	871	MFOV BB heater off
	12:15:43	735.72	851	Solar port heaters on
	12:16:15	736.25	891	SWICS off
End internal calibration sequence.				
05/02/90	12:26:55	746.92	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
05/02/90	12:31:11	751.18	419	Address azimuth position A
	12:31:43	751.72	207	Data command, high byte
	12:32:15	752.25	1CB	Data command, low byte
End azimuth angle load commands (A = 149.62°). Begin solar calibration sequence.				
05/02/90	12:33:19	753.32	822	Elevate to solar ports (Sun)
	13:05:19	785.32	814	Azimuth to position A
	13:06:23	786.38	883	Detector bias heater on at level 2

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
05/02/90	13:22:23	802.38	831	SMA shutter cycle on
	13:57:35	837.58	832	SMA shutter cycle off
	13:58:07	838.12	881	Detector bias heater off
	14:17:19	857.32	882	Detector bias heater on at level 1
	14:19:59	859.98	881	Detector bias heater off
	14:20:31	860.52	883	Detector bias heater on at level 2
	14:23:11	863.18	881	Detector bias heater off
	14:23:43	863.72	884	Detector bias heater on at level 3
	14:26:23	866.38	881	Detector bias heater off
	14:26:55	866.92	852	Solar port heaters off
	14:42:55	882.92	851	Solar port heaters on
	14:43:27	883.45	821	Elevate to internal source (stow)
	15:47:27	947.45	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
05/02/90	17:11:43	1031.72	882	Detector bias heater on at level 1
	17:14:23	1034.38	881	Detector bias heater off
	17:14:55	1034.92	883	Detector bias heater on at level 2
	17:17:35	1037.58	881	Detector bias heater off
	17:18:07	1038.12	884	Detector bias heater on at level 3
	17:20:47	1040.78	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
05/09/90	07:44:47	464.78	882	Detector bias heater on at level 1
	07:47:27	467.45	881	Detector bias heater off
	07:47:59	467.98	883	Detector bias heater on at level 2
	07:50:39	470.65	881	Detector bias heater off

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
05/09/90	07:51:11	471.18	884	Detector bias heater on at level 3
	07:53:51	473.85	881	Detector bias heater off
	08:25:19	505.32	821	Elevate to internal source (stow)
	08:41:19	521.32	862	WFOV BB heater on at temp. 1
	08:57:19	537.32	872	MFOV BB heater on at temp. 1
	10:08:15	608.25	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
05/09/90	10:09:19	609.32	881	Detector bias heater off
	10:09:51	609.85	852	Solar port heaters off
	10:10:23	610.38	821	Elevate to internal source (stow)
	10:10:55	610.92	851	Solar port heaters on
	10:13:03	613.05	882	Detector bias heater on at level 1
	10:32:47	632.78	891	SWICS off
	10:38:39	638.65	883	Detector bias heater on at level 2
	10:42:55	642.92	893	SWICS on at level 2
	10:45:35	645.58	881	Detector bias heater off
	10:49:19	649.32	863	WFOV BB heater on at temp. 2
	10:49:51	649.85	873	MFOV BB heater on at temp. 2
	10:50:55	650.92	891	SWICS off
	11:04:15	664.25	884	Detector bias heater on at level 3
	11:07:59	667.98	894	SWICS on at level 1
	11:10:07	670.12	881	Detector bias heater off
	11:12:47	672.78	852	Solar port heaters off
	11:13:51	673.85	861	WFOV BB heater off
	11:14:23	674.38	871	MFOV BB heater off
	11:14:55	674.92	851	Solar port heaters on

Table 8. Continued

	Universal time			
Date	hr:min:sec	Minutes of day	Hex command	Event description
05/09/90	11:15:27	675.45	891	SWICS off
Partially obscured by data dropout. End internal calibration sequence.				
05/09/90	11:26:07	686.12	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
05/09/90	11:30:23	690.38	419	Address azimuth position A
	11:31:27	691.45	1B5	Data command, high byte
Data command, low byte missing Begin solar calibration sequence.				
05/09/90	11:32:31	692.52	822	Elevate to solar ports (Sun)
	12:04:31	724.52	814	Azimuth to position A
	12:05:35	725.58	883	Detector bias heater on at level 2
	12:21:35	741.58	831	SMA shutter cycle on
	12:56:47	776.78	832	SMA shutter cycle off
	12:57:19	777.32	881	Detector bias heater off
	13:16:31	796.52	882	Detector bias heater on at level 1
	13:19:11	799.18	881	Detector bias heater off
	13:19:43	799.72	883	Detector bias heater on at level 2
	13:22:23	802.38	881	Detector bias heater off
	13:22:55	802.92	884	Detector bias heater on at level 3
	13:25:35	805.58	881	Detector bias heater off
	13:26:07	806.12	852	Solar port heaters off
	13:42:07	822.12	851	Solar port heaters on
	13:42:39	822.65	821	Elevate to internal source (stow)
	14:46:39	886.65	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				

Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
05/09/90	16:10:55	970.92	882	Detector bias heater on at level 1
	16:13:35	973.58	881	Detector bias heater off
	16:14:07	974.12	883	Detector bias heater on at level 2
	16:16:47	976.78	881	Detector bias heater off
	16:17:19	977.32	884	Detector bias heater on at level 3
	16:19:59	979.98	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
05/16/90	08:24:47	504.78	882	Detector bias heater on at level 1
	08:27:27	507.45	881	Detector bias heater off
	08:27:59	507.98	883	Detector bias heater on at level 2
	08:30:39	510.65	881	Detector bias heater off
	08:31:11	511.18	884	Detector bias heater on at level 3
	08:33:51	513.85	881	Detector bias heater off
	09:05:19	545.32	821	Elevate to internal source (stow)
	09:21:19	561.32	862	WFOV BB heater on at temp. 1
	09:37:19	577.32	872	MFOV BB heater on at temp. 1
	10:48:15	648.25	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
05/16/90	10:49:19	649.32	881	Detector bias heater off
	10:49:51	649.85	852	Solar port heaters off
	10:50:23	650.38	821	Elevate to internal source (stow)
	10:50:55	650.92	851	Solar port heaters on
	10:53:03	653.05	882	Detector bias heater on at level 1
	10:56:47	656.78	892	SWICS on at level 3
	10:59:59	659.98	881	Detector bias heater off

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
05/16/90	11:03:43	663.72	862	WFOV BB heater on at temp. 1
	11:04:15	664.25	872	MFOV BB heater on at temp. 1
	11:05:19	665.32	891	SWICS off
	11:18:39	678.65	883	Detector bias heater on at level 2
	11:22:23	682.38	893	SWICS on at level 2
	11:25:35	685.58	881	Detector bias heater off
	11:29:19	689.32	863	WFOV BB heater on at temp. 2
	11:29:51	689.85	873	MFOV BB heater on at temp. 2
	11:30:55	690.92	891	SWICS off
	11:44:15	704.25	884	Detector bias heater on at level 3
	11:47:59	707.98	894	SWICS on at level 1
	11:50:07	710.12	881	Detector bias heater off
	11:52:47	712.78	852	Solar port heaters off
	11:53:51	713.85	861	WFOV BB heater off
	11:54:23	714.38	871	MFOV BB heater off
	11:54:55	714.92	851	Solar port heaters on
	11:55:27	715.45	891	SWICS off
End internal calibration sequence.				
05/16/90	12:06:07	726.12	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
05/16/90	12:10:23	730.38	419	Address azimuth position A
	12:10:55	730.92	207	Data command, high byte
	12:11:59	731.98	1A2	Data command, low byte
End azimuth angle load commands (A = 146.55°). Begin solar calibration sequence.				
05/16/90	12:12:31	732.52	822	Elevate to solar ports (Sun)
	12:44:31	764.52	814	Azimuth to position A

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
05/16/90	12:45:35	765.58	883	Detector bias heater on at level 2
	13:01:35	781.58	831	SMA shutter cycle on
	13:36:47	816.78	832	SMA shutter cycle off
	13:37:19	817.32	881	Detector bias heater off
	13:56:31	836.52	882	Detector bias heater on at level 1
	13:59:11	839.18	881	Detector bias heater off
	13:59:43	839.72	883	Detector bias heater on at level 2
	14:02:23	842.38	881	Detector bias heater off
	14:02:55	842.92	884	Detector bias heater on at level 3
	14:05:35	845.58	881	Detector bias heater off
	14:06:07	846.12	852	Solar port heaters off
	14:22:07	862.12	851	Solar port heaters on
	14:22:39	862.65	821	Elevate to internal source (stow)
	15:26:39	926.65	823	Elevate to nadir (Earth)

End solar calibration sequence.
Begin postcalibration sequence.

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
05/16/90	16:50:55	1010.92	882	Detector bias heater on at level 1
	16:53:35	1013.58	881	Detector bias heater off
	16:54:07	1014.12	883	Detector bias heater on at level 2
	16:56:47	1016.78	881	Detector bias heater off
	16:57:19	1017.32	884	Detector bias heater on at level 3
	16:59:59	1019.98	881	Detector bias heater off

End postcalibration sequence.
Begin preinternal calibration sequence.

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
05/23/90	07:23:59	443.98	882	Detector bias heater on at level 1
	07:26:39	446.65	881	Detector bias heater off
	07:27:11	447.18	883	Detector bias heater on at level 2

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
05/23/90	07:29:51	449.85	881	Detector bias heater off
	07:30:23	450.38	884	Detector bias heater on at level 3
	07:33:03	453.05	881	Detector bias heater off
	08:04:31	484.52	821	Elevate to internal source (stow)
	08:20:31	500.52	862	WFOV BB heater on at temp. 1
	08:36:31	516.52	872	MFOV BB heater on at temp. 1
	09:47:27	587.45	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
05/23/90	09:48:31	588.52	881	Detector bias heater off
	09:49:03	589.05	852	Solar port heaters off
	09:49:35	589.58	821	Elevate to internal source (stow)
	09:50:07	590.12	851	Solar port heaters on
	09:52:15	592.25	882	Detector bias heater on at level 1
	09:55:59	595.98	892	SWICS on at level 3
	09:59:11	599.18	881	Detector bias heater off
	10:02:55	602.92	862	WFOV BB heater on at temp. 1
	10:03:27	603.45	872	MFOV BB heater on at temp. 1
	10:04:31	604.52	891	SWICS off
	10:17:51	617.85	883	Detector bias heater on at level 2
	10:21:35	621.58	893	SWICS on at level 2
	10:24:47	624.78	881	Detector bias heater off
	10:28:31	628.52	863	WFOV BB heater on at temp. 2
	10:29:03	629.05	873	MFOV BB heater on at temp. 2
	10:30:07	630.12	891	SWICS off
	10:43:27	643.45	884	Detector bias heater on at level 3
	10:47:11	647.18	894	SWICS on at level 1

Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
05/23/90	10:49:19	649.32	881	Detector bias heater off
	10:51:59	651.98	852	Solar port heaters off
	10:53:03	653.05	861	WFOV BB heater off
	10:53:35	653.58	871	MFOV BB heater off
	10:54:07	654.12	851	Solar port heaters on
	10:54:39	654.65	891	SWICS off
End internal calibration sequence.				
05/23/90	11:05:19	665.32	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
05/23/90	11:09:35	669.58	419	Address azimuth position A
	11:10:07	670.12	207	Data command, high byte
	11:10:39	670.65	194	Data command, low byte
End azimuth angle load commands (A = 145.50°). Begin solar calibration sequence.				
05/23/90	11:11:43	671.72	822	Elevate to solar ports (Sun)
	11:43:43	703.72	814	Azimuth to position A
	11:44:47	704.78	883	Detector bias heater on at level 2
	12:00:47	720.78	831	SMA shutter cycle on
	12:35:59	755.98	832	SMA shutter cycle off
	12:36:31	756.52	881	Detector bias heater off
	12:55:43	775.72	882	Detector bias heater on at level 1
	12:58:23	778.38	881	Detector bias heater off
	12:58:55	778.92	883	Detector bias heater on at level 2
	13:01:35	781.58	881	Detector bias heater off
	13:02:07	782.12	884	Detector bias heater on at level 3
	13:04:47	784.78	881	Detector bias heater off
	13:05:19	785.32	852	Solar port heaters off

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
05/23/90	13:21:19	801.32	851	Solar port heaters on
	13:21:51	801.85	821	Elevate to internal source (stow)
	14:25:51	865.85	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
05/23/90	15:50:07	950.12	882	Detector bias heater on at level 1
	15:52:47	952.78	881	Detector bias heater off
	15:53:19	953.32	883	Detector bias heater on at level 2
	15:55:59	955.98	881	Detector bias heater off
	15:56:31	956.52	884	Detector bias heater on at level 3
	15:59:11	959.18	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
05/30/90	08:03:59	483.98	882	Detector bias heater on at level 1
	08:06:39	486.65	881	Detector bias heater off
	08:07:11	487.18	883	Detector bias heater on at level 2
	08:09:51	489.85	881	Detector bias heater off
	08:10:23	490.38	884	Detector bias heater on at level 3
	08:13:03	493.05	881	Detector bias heater off
	08:44:31	524.52	821	Elevate to internal source (stow)
	09:00:31	540.52	862	WFOV BB heater on at temp. 1
	09:16:31	556.52	872	MFOV BB heater on at temp. 1
	10:27:27	627.45	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
05/30/90	10:28:31	628.52	881	Detector bias heater off
	10:29:03	629.05	852	Solar port heaters off

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
05/30/90	10:29:35	629.58	821	Elevate to internal source (stow)
	10:30:07	630.12	851	Solar port heaters on
	10:32:15	632.25	882	Detector bias heater on at level 1
	10:35:59	635.98	892	SWICS on at level 3
	10:39:11	639.18	881	Detector bias heater off
	10:42:55	642.92	862	WFOV BB heater on at temp. 1
	10:43:27	643.45	872	MFOV BB heater on at temp. 1
	10:44:31	644.52	891	SWICS off
	10:57:51	657.85	883	Detector bias heater on at level 2
	11:01:35	661.58	893	SWICS on at level 2
	11:04:47	664.78	881	Detector bias heater off
	11:08:31	668.52	863	WFOV BB heater on at temp. 2
	11:09:03	669.05	873	MFOV BB heater on at temp. 2
	11:10:07	670.12	891	SWICS off
	11:23:27	683.45	884	Detector bias heater on at level 3
	11:27:11	687.18	894	SWICS on at level 1
	11:29:19	689.32	881	Detector bias heater off
	11:31:59	691.98	852	Solar port heaters off
	11:33:03	693.05	861	WFOV BB heater off
	11:33:35	693.58	871	MFOV BB heater off
	11:34:07	694.12	851	Solar port heaters on
	11:34:39	694.65	891	SWICS off
End internal calibration sequence.				
05/30/90	11:45:19	705.32	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
05/30/90	11:49:35	709.58	419	Address azimuth position A

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Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
05/30/90	11:50:07	710.12	207	Data command, high byte
	11:50:39	710.65	188	Data command, low byte
End azimuth angle load commands (A = 144.60°). Begin solar calibration sequence.				
05/30/90	11:51:43	711.72	822	Elevate to solar ports (Sun)
	12:23:43	743.72	814	Azimuth to position A
	12:24:47	744.78	883	Detector bias heater on at level 2
	12:40:47	760.78	831	SMA shutter cycle on
	13:15:59	795.98	832	SMA shutter cycle off
	13:16:31	796.52	881	Detector bias heater off
	13:35:43	815.72	882	Detector bias heater on at level 1
	13:38:23	818.38	881	Detector bias heater off
	13:38:55	818.92	883	Detector bias heater on at level 2
	13:41:35	821.58	881	Detector bias heater off
	13:42:07	822.12	884	Detector bias heater on at level 3
	13:44:47	824.78	881	Detector bias heater off
	13:45:19	825.32	852	Solar port heaters off
	14:01:19	841.32	851	Solar port heaters on
	14:01:51	841.85	821	Elevate to internal source (stow)
	15:05:51	905.85	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
05/30/90	16:30:07	990.12	882	Detector bias heater on at level 1
	16:32:47	992.78	881	Detector bias heater off
	16:33:19	993.32	883	Detector bias heater on at level 2
	16:35:59	995.98	881	Detector bias heater off
	16:36:31	996.52	884	Detector bias heater on at level 3

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
05/30/90	16:39:11	999.18	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
06/06/90	08:44:31	524.52	882	Detector bias heater on at level 1
	08:47:11	527.18	881	Detector bias heater off
	08:47:43	527.72	883	Detector bias heater on at level 2
	08:50:23	530.38	881	Detector bias heater off
	08:50:55	530.92	884	Detector bias heater on at level 3
	08:53:35	533.58	881	Detector bias heater off
	09:25:03	565.05	821	Elevate to internal source (stow)
	09:41:03	581.05	862	WFOV BB heater on at temp. 1
	09:57:03	597.05	872	MFOV BB heater on at temp. 1
	11:07:59	667.98	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
06/06/90	11:09:03	669.05	881	Detector bias heater off
	11:09:35	669.58	852	Solar port heaters off
	11:10:07	670.12	821	Elevate to internal source (stow)
	11:10:39	670.65	851	Solar port heaters on
	11:12:47	672.78	882	Detector bias heater on at level 1
	11:16:31	676.52	892	SWICS on at level 3
	11:19:43	679.72	881	Detector bias heater off
	11:23:27	683.45	862	WFOV BB heater on at temp. 1
	11:23:59	683.98	872	MFOV BB heater on at temp. 1
	11:25:03	685.05	891	SWICS off
	11:38:23	698.38	883	Detector bias heater on at level 2
	11:42:07	702.12	893	SWICS on at level 2

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
06/06/90	11:45:19	705.32	881	Detector bias heater off
	11:49:03	709.05	863	WFOV BB heater on at temp. 2
	11:49:35	709.58	873	MFOV BB heater on at temp. 2
	11:50:39	710.65	891	SWICS off
	12:03:59	723.98	884	Detector bias heater on at level 3
	12:07:43	727.72	894	SWICS on at level 1
	12:09:51	729.85	881	Detector bias heater off
	12:12:31	732.52	852	Solar port heaters off
	12:13:35	733.58	861	WFOV BB heater off
	12:14:07	734.12	871	MFOV BB heater off
	12:14:39	734.65	851	Solar port heaters on
	12:15:11	735.18	891	SWICS off
End internal calibration sequence.				
06/06/90	12:25:51	745.85	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
06/06/90	12:30:07	750.12	419	Address azimuth position A
	12:30:39	750.65	207	Data command, high byte
	12:31:11	751.18	181	Data command, low byte
End azimuth angle load commands (A = 144.08°). Begin solar calibration sequence.				
06/06/90	12:32:15	752.25	822	Elevate to solar ports (Sun)
	13:04:15	784.25	814	Azimuth to position A
	13:05:19	785.32	883	Detector bias heater on at level 2
	13:21:19	801.32	831	SMA shutter cycle on
	13:56:31	836.52	832	SMA shutter cycle off
	13:57:03	837.05	881	Detector bias heater off
	14:16:15	856.25	882	Detector bias heater on at level 1

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
06/06/90	14:18:55	858.92	881	Detector bias heater off
	14:19:27	859.45	883	Detector bias heater on at level 2
	14:22:07	862.12	881	Detector bias heater off
	14:22:39	862.65	884	Detector bias heater on at level 3
	14:25:19	865.32	881	Detector bias heater off
	14:25:51	865.85	852	Solar port heaters off
	14:41:51	881.85	851	Solar port heaters on
	14:42:23	882.38	821	Elevate to internal source (stow)
	15:46:23	946.38	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
06/06/90	17:10:39	1030.65	882	Detector bias heater on at level 1
	17:13:19	1033.32	881	Detector bias heater off
	17:13:51	1033.85	883	Detector bias heater on at level 2
	17:16:31	1036.52	881	Detector bias heater off
	17:17:03	1037.05	884	Detector bias heater on at level 3
	17:19:43	1039.72	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
06/13/90	07:43:43	463.72	882	Detector bias heater on at level 1
	07:46:23	466.38	881	Detector bias heater off
	07:46:55	466.92	883	Detector bias heater on at level 2
	07:49:35	469.58	881	Detector bias heater off
	07:50:07	470.12	884	Detector bias heater on at level 3
	07:52:47	472.78	881	Detector bias heater off
	08:24:15	504.25	821	Elevate to internal source (stow)
	08:40:15	520.25	862	WFOV BB heater on at temp. 1

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
06/13/90	08:56:15	536.25	872	MFOV BB heater on at temp. 1
Some commands obscured by data dropout. End preinternal calibration sequence. Begin internal calibration sequence.				
06/13/90	10:13:35	613.58	882	Detector bias heater on at level 1
	10:15:43	615.72	892	SWICS on at level 3
	10:18:55	618.92	881	Detector bias heater off
	10:22:39	622.65	862	WFOV BB heater on at temp. 1
	10:23:11	623.18	872	MFOV BB heater on at temp. 1
	10:24:15	624.25	891	SWICS off
	10:37:35	637.58	883	Detector bias heater on at level 2
	10:41:19	641.32	893	SWICS on at level 2
	10:44:31	644.52	881	Detector bias heater off
	10:48:15	648.25	863	WFOV BB heater on at temp. 2
	10:48:47	648.78	873	MFOV BB heater on at temp. 2
	10:49:51	649.85	891	SWICS off
	11:03:11	663.18	884	Detector bias heater on at level 3
	11:06:55	666.92	894	SWICS on at level 1
	11:09:03	669.05	881	Detector bias heater off
	11:11:43	671.72	852	Solar port heaters off
	11:12:47	672.78	861	WFOV BB heater off
	11:13:19	673.32	871	MFOV BB heater off
	11:13:51	673.85	851	Solar port heaters on
	11:14:23	674.38	891	SWICS off
Some commands obscured by data dropout. End internal calibration sequence.				
06/13/90	11:25:03	685.05	823	Elevate to nadir (Earth)

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Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
Begin azimuth angle load commands for solar calibration.
06/13/90	11:29:19	689.32	419	Address azimuth position A
	11:29:51	689.85	207	Data command, high byte
	11:30:23	690.38	17E	Data command, low byte
End azimuth angle load commands (A = 143.85°). Begin solar calibration sequence.
06/13/90	11:31:27	691.45	822	Elevate to solar ports (Sun)
	12:03:27	723.45	814	Azimuth to position A
	12:04:31	724.52	883	Detector bias heater on at level 2
	12:20:31	740.52	831	SMA shutter cycle on
	12:55:43	775.72	832	SMA shutter cycle off
	12:56:15	776.25	881	Detector bias heater off
	13:15:27	795.45	882	Detector bias heater on at level 1
	13:18:07	798.12	881	Detector bias heater off
	13:18:39	798.65	883	Detector bias heater on at level 2
	13:21:19	801.32	881	Detector bias heater off
	13:21:51	801.85	884	Detector bias heater on at level 3
	13:24:31	804.52	881	Detector bias heater off
	13:25:03	805.05	852	Solar port heaters off
	13:41:03	821.05	851	Solar port heaters on
	13:41:35	821.58	821	Elevate to internal source (stow)
	14:45:35	885.58	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.
06/13/90	16:09:51	969.85	882	Detector bias heater on at level 1
	16:12:31	972.52	881	Detector bias heater off
	16:13:03	973.05	883	Detector bias heater on at level 2

Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
06/13/90	16:15:43	975.72	881	Detector bias heater off
	16:16:15	976.25	884	Detector bias heater on at level 3
	16:18:55	978.92	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
06/20/90	09:11:43	551.72	821	Elevate to internal source (stow)
	09:20:47	560.78	862	WFOV BB heater on at temp. 1
	09:36:47	576.78	872	MFOV BB heater on at temp. 1
	10:47:43	647.72	823	Elevate to nadir (Earth)
First sequence missing by fill data and data dropout. End preinternal calibration sequence. Begin internal calibration sequence.				
06/20/90	10:48:47	648.78	881	Detector bias heater off
	10:49:19	649.32	852	Solar port heaters off
	10:49:51	649.85	821	Elevate to internal source (stow)
	10:50:23	650.38	851	Solar port heaters on
	10:52:31	652.52	882	Detector bias heater on at level 1
	10:56:15	656.25	892	SWICS on at level 3
	10:59:27	659.45	881	Detector bias heater off
	11:03:11	663.18	862	WFOV BB heater on at temp. 1
	11:03:43	663.72	872	MFOV BB heater on at temp. 1
	11:04:47	664.78	891	SWICS off
	11:18:07	678.12	883	Detector bias heater on at level 2
	11:21:51	681.85	893	SWICS on at level 2
	11:25:03	685.05	881	Detector bias heater off
	11:28:47	688.78	863	WFOV BB heater on at temp. 2
	11:29:19	689.32	873	MFOV BB heater on at temp. 2

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
06/20/90	11:30:23	690.38	891	SWICS off
	11:43:43	703.72	884	Detector bias heater on at level 3
	11:47:27	707.45	894	SWICS on at level 1
	11:49:35	709.58	881	Detector bias heater off
	11:52:15	712.25	852	Solar port heaters off
	11:53:19	713.32	861	WFOV BB heater off
	11:53:51	713.85	871	MFOV BB heater off
	11:54:23	714.38	851	Solar port heaters on
	11:54:55	714.92	891	SWICS off
End internal calibration sequence.				
06/20/90	12:05:35	725.58	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
06/20/90	12:09:51	729.85	419	Address azimuth position A
	12:10:23	730.38	207	Data command, high byte
	12:10:55	730.92	17E	Data command, low byte
End azimuth angle load commands (A = 143.85°). Begin solar calibration sequence.				
06/20/90	12:11:59	731.98	822	Elevate to solar ports (Sun)
	12:43:59	763.98	814	Azimuth to position A
	12:45:03	765.05	883	Detector bias heater on at level 2
	13:01:03	781.05	831	SMA shutter cycle on
	13:36:15	816.25	832	SMA shutter cycle off
	13:36:47	816.78	881	Detector bias heater off
	13:55:59	835.98	882	Detector bias heater on at level 1
	13:58:39	838.65	881	Detector bias heater off
	13:59:11	839.18	883	Detector bias heater on at level 2
	14:01:51	841.85	881	Detector bias heater off

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
06/20/90	14:02:23	842.38	884	Detector bias heater on at level 3
	14:05:03	845.05	881	Detector bias heater off
	14:05:35	845.58	852	Solar port heaters off
	14:21:35	861.58	851	Solar port heaters on
	14:22:07	862.12	821	Elevate to internal source (stow)
	15:26:07	926.12	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
06/20/90	16:50:23	1010.38	882	Detector bias heater on at level 1
	16:53:03	1013.05	881	Detector bias heater off
	16:53:35	1013.58	883	Detector bias heater on at level 2
	16:56:15	1016.25	881	Detector bias heater off
	16:56:47	1016.78	884	Detector bias heater on at level 3
	16:59:27	1019.45	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
06/27/90	07:23:29	443.48	882	Detector bias heater on at level 1
	07:26:09	446.15	881	Detector bias heater off
	07:26:41	446.68	883	Detector bias heater on at level 2
	07:29:21	449.35	881	Detector bias heater off
	07:29:53	449.88	884	Detector bias heater on at level 3
	07:32:33	452.55	881	Detector bias heater off
	08:04:01	484.02	821	Elevate to internal source (stow)
	08:20:01	500.02	862	WFOV BB heater on at temp. 1
	08:36:01	516.02	872	MFOV BB heater on at temp. 1
	09:46:57	586.95	823	Elevate to nadir (Earth)
End preinternal calibration sequence.				

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
Begin internal calibration sequence.				
06/27/90	09:48:01	588.02	881	Detector bias heater off
	09:48:33	588.55	852	Solar port heaters off
	09:49:05	589.08	821	Elevate to internal source (stow)
	09:49:37	589.62	851	Solar port heaters on
	09:51:45	591.75	882	Detector bias heater on at level 1
	09:55:29	595.48	892	SWICS on at level 3
	09:58:41	598.68	881	Detector bias heater off
	10:02:25	602.42	862	WFOV BB heater on at temp. 1
	10:02:57	602.95	872	MFOV BB heater on at temp. 1
	10:04:01	604.02	891	SWICS off
	10:17:21	617.35	883	Detector bias heater on at level 2
	10:21:05	621.08	893	SWICS on at level 2
	10:24:17	624.28	881	Detector bias heater off
	10:28:01	628.02	863	WFOV BB heater on at temp. 2
	10:28:33	628.55	873	MFOV BB heater on at temp. 2
	10:29:37	629.62	891	SWICS off
	10:42:57	642.95	884	Detector bias heater on at level 3
	10:46:41	646.68	894	SWICS on at level 1
	10:48:49	648.82	881	Detector bias heater off
	10:51:29	651.48	852	Solar port heaters off
	10:52:33	652.55	861	WFOV BB heater off
	10:53:05	653.08	871	MFOV BB heater off
	10:53:37	653.62	851	Solar port heaters on
	10:54:09	654.15	891	SWICS off
End internal calibration sequence.				

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
06/27/90	11:04:49	664.82	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
06/27/90	11:09:05	669.08	419	Address azimuth position A
	11:09:37	669.62	207	Data command, high byte
	11:10:09	670.15	183	Data command, low byte
End azimuth angle load commands (A = 144.23°). Begin solar calibration sequence.				
06/27/90	11:11:13	671.22	822	Elevate to solar ports (Sun)
	11:43:13	703.22	814	Azimuth to position A
	11:44:17	704.28	883	Detector bias heater on at level 2
	12:00:17	720.28	831	SMA shutter cycle on
	12:35:29	755.48	832	SMA shutter cycle off
	12:36:01	756.02	881	Detector bias heater off
	12:55:13	775.22	882	Detector bias heater on at level 1
	12:57:53	777.88	881	Detector bias heater off
	12:58:25	778.42	883	Detector bias heater on at level 2
	13:01:05	781.08	881	Detector bias heater off
	13:01:37	781.62	884	Detector bias heater on at level 3
	13:04:17	784.28	881	Detector bias heater off
	13:04:49	784.82	852	Solar port heaters off
	13:20:49	800.82	851	Solar port heaters on
	13:21:21	801.35	821	Elevate to internal source (stow)
	14:25:21	865.35	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
06/27/90	15:49:37	949.62	882	Detector bias heater on at level 1
	15:52:17	952.28	881	Detector bias heater off

Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
06/27/90	15:52:49	952.82	883	Detector bias heater on at level 2
	15:55:29	955.48	881	Detector bias heater off
	15:56:01	956.02	884	Detector bias heater on at level 3
	15:58:41	958.68	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
07/04/90	08:04:01	484.02	882	Detector bias heater on at level 1
	08:06:41	486.68	881	Detector bias heater off
	08:07:13	487.22	883	Detector bias heater on at level 2
	08:09:53	489.88	881	Detector bias heater off
	08:10:25	490.42	884	Detector bias heater on at level 3
	08:13:05	493.08	881	Detector bias heater off
	08:44:33	524.55	821	Elevate to internal source (stow)
	09:00:33	540.55	862	WFOV BB heater on at temp. 1
	09:16:33	556.55	872	MFOV BB heater on at temp. 1
	10:27:29	627.48	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
07/04/90	10:28:33	628.55	881	Detector bias heater off
	10:29:05	629.08	852	Solar port heaters off
	10:29:37	629.62	821	Elevate to internal source (stow)
	10:30:09	630.15	851	Solar port heaters on
	10:32:17	632.28	882	Detector bias heater on at level 1
	10:36:01	636.02	892	SWICS on at level 3
	10:39:13	639.22	881	Detector bias heater off
	10:42:57	642.95	862	WFOV BB heater on at temp. 1
	10:43:29	643.48	872	MFOV BB heater on at temp. 1

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
07/04/90	10:44:33	644.55	891	SWICS off
	10:57:53	657.88	883	Detector bias heater on at level 2
	11:01:37	661.62	893	SWICS on at level 2
	11:04:49	664.82	881	Detector bias heater off
	11:08:33	668.55	863	WFOV BB heater on at temp. 2
	11:09:05	669.08	873	MFOV BB heater on at temp. 2
	11:10:09	670.15	891	SWICS off
	11:23:29	683.48	884	Detector bias heater on at level 3
	11:27:13	687.22	894	SWICS on at level 1
	11:29:21	689.35	881	Detector bias heater off
	11:32:01	692.02	852	Solar port heaters off
	11:33:05	693.08	861	WFOV BB heater off
	11:33:37	693.62	871	MFOV BB heater off
	11:34:09	694.15	851	Solar port heaters on
	11:34:41	694.68	891	SWICS off
End internal calibration sequence.				
07/04/90	11:45:21	705.35	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
07/04/90	11:49:37	709.62	419	Address azimuth position A
	11:50:09	710.15	207	Data command, high byte
	11:50:41	710.68	18B	Data command, low byte
End azimuth angle load commands (A = 144.83°). Begin solar calibration sequence.				
07/04/90	11:51:45	711.75	822	Elevate to solar ports (Sun)
	12:23:45	743.75	814	Azimuth to position A
	12:24:49	744.82	883	Detector bias heater on at level 2
	12:40:49	760.82	831	SMA shutter cycle on

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
07/04/90	13:16:01	796.02	832	SMA shutter cycle off
	13:16:33	796.55	881	Detector bias heater off
	13:35:45	815.75	882	Detector bias heater on at level 1
	13:38:25	818.42	881	Detector bias heater off
	13:38:57	818.95	883	Detector bias heater on at level 2
	13:41:37	821.62	881	Detector bias heater off
	13:42:09	822.15	884	Detector bias heater on at level 3
	13:44:49	824.82	881	Detector bias heater off
	13:45:21	825.35	852	Solar port heaters off
	14:01:21	841.35	851	Solar port heaters on
	14:01:53	841.88	821	Elevate to internal source (stow)
	15:05:53	905.88	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
07/04/90	16:30:09	990.15	882	Detector bias heater on at level 1
	16:32:49	992.82	881	Detector bias heater off
	16:33:21	993.35	883	Detector bias heater on at level 2
	16:36:01	996.02	881	Detector bias heater off
	16:36:33	996.55	884	Detector bias heater on at level 3
	16:39:13	999.22	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
07/11/90	08:44:33	524.55	882	Detector bias heater on at level 1
	08:47:13	527.22	881	Detector bias heater off
	08:47:45	527.75	883	Detector bias heater on at level 2
	08:50:25	530.42	881	Detector bias heater off
	08:50:57	530.95	884	Detector bias heater on at level 3

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
07/11/90	08:53:37	533.62	881	Detector bias heater off
	09:25:05	565.08	821	Elevate to internal source (stow)
	09:41:05	581.08	862	WFOV BB heater on at temp. 1
	09:57:05	597.08	872	MFOV BB heater on at temp. 1
	11:08:01	668.02	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
07/11/90	11:09:05	669.08	881	Detector bias heater off
	11:09:37	669.62	852	Solar port heaters off
	11:10:09	670.15	821	Elevate to internal source (stow)
	11:10:41	670.68	851	Solar port heaters on
	11:12:49	672.82	882	Detector bias heater on at level 1
	11:16:33	676.55	892	SWICS on at level 3
	11:19:45	679.75	881	Detector bias heater off
	11:23:29	683.48	862	WFOV BB heater on at temp. 1
	11:24:01	684.02	872	MFOV BB heater on at temp. 1
	11:25:05	685.08	891	SWICS off
	11:38:25	698.42	883	Detector bias heater on at level 2
	11:42:09	702.15	893	SWICS on at level 2
	11:45:21	705.35	881	Detector bias heater off
	11:49:05	709.08	863	WFOV BB heater on at temp. 2
	11:49:37	709.62	873	MFOV BB heater on at temp. 2
	11:50:41	710.68	891	SWICS off
	12:04:01	724.02	884	Detector bias heater on at level 3
	12:07:45	727.75	894	SWICS on at level 1
	12:09:53	729.88	881	Detector bias heater off
	12:12:33	732.55	852	Solar port heaters off

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
07/11/90	12:13:37	733.62	861	WFOV BB heater off
	12:14:09	734.15	871	MFOV BB heater off
	12:14:41	734.68	851	Solar port heaters on
	12:15:13	735.22	891	SWICS off
End internal calibration sequence.				
07/11/90	12:25:53	745.88	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
07/11/90	12:30:09	750.15	419	Address azimuth position A
	12:30:41	750.68	207	Data command, high byte
	12:31:13	751.22	197	Data command, low byte
End azimuth angle load commands (A = 145.73°). Begin solar calibration sequence.				
07/11/90	12:32:17	752.28	822	Elevate to solar ports (Sun)
	13:04:17	784.28	814	Azimuth to position A
	13:05:21	785.35	883	Detector bias heater on at level 2
	13:21:21	801.35	831	SMA shutter cycle on
	13:56:33	836.55	832	SMA shutter cycle off
	13:57:05	837.08	881	Detector bias heater off
	14:16:17	856.28	882	Detector bias heater on at level 1
	14:18:57	858.95	881	Detector bias heater off
	14:19:29	859.48	883	Detector bias heater on at level 2
	14:22:09	862.15	881	Detector bias heater off
	14:22:41	862.68	884	Detector bias heater on at level 3
	14:25:21	865.35	881	Detector bias heater off
	14:25:53	865.88	852	Solar port heaters off
	14:41:53	881.88	851	Solar port heaters on
	14:42:25	882.42	821	Elevate to internal source (stow)

Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
07/11/90	15:46:25	946.42	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.
07/11/90	17:10:41	1030.68	882	Detector bias heater on at level 1
	17:13:21	1033.35	881	Detector bias heater off
	17:13:53	1033.88	883	Detector bias heater on at level 2
	17:16:33	1036.55	881	Detector bias heater off
	17:17:05	1037.08	884	Detector bias heater on at level 3
	17:19:45	1039.75	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.
07/18/90	07:44:17	464.28	882	Detector bias heater on at level 1
	07:46:57	466.95	881	Detector bias heater off
	07:47:29	467.48	883	Detector bias heater on at level 2
	07:50:09	470.15	881	Detector bias heater off
	07:50:41	470.68	884	Detector bias heater on at level 3
	07:53:21	473.35	881	Detector bias heater off
	08:25:21	505.35	821	Elevate to internal source (stow)
	08:40:49	520.82	862	WFOV BB heater on at temp. 1
	08:56:49	536.82	872	MFOV BB heater on at temp. 1
Some commands obscured by data dropout. End preinternal calibration sequence. Begin internal calibration sequence.
07/18/90	10:15:45	615.75	882	Detector bias heater on at level 1
	10:16:17	616.28	892	SWICS on at level 3
	10:19:29	619.48	881	Detector bias heater off
	10:23:13	623.22	862	WFOV BB heater on at temp. 1
	10:23:45	623.75	872	MFOV BB heater on at temp. 1

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Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
07/18/90	10:24:49	624.82	891	SWICS off
	10:38:09	638.15	883	Detector bias heater on at level 2
	10:41:53	641.88	893	SWICS on at level 2
	10:45:05	645.08	881	Detector bias heater off
	10:48:49	648.82	863	WFOV BB heater on at temp. 2
	10:49:21	649.35	873	MFOV BB heater on at temp. 2
	10:50:25	650.42	891	SWICS off
	11:03:45	663.75	884	Detector bias heater on at level 3
	11:07:29	667.48	894	SWICS on at level 1
	11:09:37	669.62	881	Detector bias heater off
	11:12:17	672.28	852	Solar port heaters off
	11:13:21	673.35	861	WFOV BB heater off
	11:13:53	673.88	871	MFOV BB heater off
	11:14:25	674.42	851	Solar port heaters on
	11:14:57	674.95	891	SWICS off
Some commands obscured by data dropout. End internal calibration sequence.				
07/18/90	11:25:37	685.62	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
07/18/90	11:29:53	689.88	419	Address azimuth position A
	11:30:25	690.42	207	Data command, high byte
	11:30:57	690.95	1A5	Data command, low byte
End azimuth angle load commands (A = 146.78°). Begin solar calibration sequence.				
07/18/90	11:32:01	692.02	822	Elevate to solar ports (Sun)
	12:04:01	724.02	814	Azimuth to position A
	12:05:05	725.08	883	Detector bias heater on at level 2

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
07/18/90	12:21:05	741.08	831	SMA shutter cycle on
	12:56:17	776.28	832	SMA shutter cycle off
	12:56:49	776.82	881	Detector bias heater off
	13:16:01	796.02	882	Detector bias heater on at level 1
	13:18:41	798.68	881	Detector bias heater off
	13:19:13	799.22	883	Detector bias heater on at level 2
	13:21:53	801.88	881	Detector bias heater off
	13:22:25	802.42	884	Detector bias heater on at level 3
	13:25:05	805.08	881	Detector bias heater off
	13:25:37	805.62	852	Solar port heaters off
	13:41:37	821.62	851	Solar port heaters on
	13:42:09	822.15	821	Elevate to internal source (stow)
	14:46:09	886.15	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
07/18/90	16:10:25	970.42	882	Detector bias heater on at level 1
	16:13:05	973.08	881	Detector bias heater off
	16:13:37	973.62	883	Detector bias heater on at level 2
	16:16:17	976.28	881	Detector bias heater off
	16:16:49	976.82	884	Detector bias heater on at level 3
	16:19:29	979.48	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
07/25/90	08:25:21	505.35	882	Detector bias heater on at level 1
	08:28:01	508.02	881	Detector bias heater off
	08:28:33	508.55	883	Detector bias heater on at level 2
	08:31:13	511.22	881	Detector bias heater off

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
07/25/90	08:31:45	511.75	884	Detector bias heater on at level 3
	08:34:57	514.95	881	Detector bias heater off
	09:05:53	545.88	821	Elevate to internal source (stow)
	09:21:53	561.88	862	WFOV BB heater on at temp. 1
	09:37:53	577.88	872	MFOV BB heater on at temp. 1
	10:48:49	648.82	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
07/25/90	10:49:53	649.88	881	Detector bias heater off
	10:50:25	650.42	852	Solar port heaters off
	10:50:57	650.95	821	Elevate to internal source (stow)
	10:51:29	651.48	851	Solar port heaters on
	10:53:37	653.62	882	Detector bias heater on at level 1
	10:57:21	657.35	892	SWICS on at level 3
	11:00:33	660.55	881	Detector bias heater off
	11:04:17	664.28	862	WFOV BB heater on at temp. 1
	11:04:49	664.82	872	MFOV BB heater on at temp. 1
	11:05:53	665.88	891	SWICS off
	11:19:13	679.22	883	Detector bias heater on at level 2
	11:22:57	682.95	893	SWICS on at level 2
	11:26:09	686.15	881	Detector bias heater off
	11:29:53	689.88	863	WFOV BB heater on at temp. 2
	11:30:25	690.42	873	MFOV BB heater on at temp. 2
	11:31:29	691.48	891	SWICS off
	11:44:49	704.82	884	Detector bias heater on at level 3
	11:48:33	708.55	894	SWICS on at level 1
	11:50:41	710.68	881	Detector bias heater off

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
07/25/90	11:53:21	713.35	852	Solar port heaters off
	11:54:25	714.42	861	WFOV BB heater off
	11:54:57	714.95	871	MFOV BB heater off
	11:55:29	715.48	851	Solar port heaters on
	11:56:01	716.02	891	SWICS off
End internal calibration sequence.				
07/25/90	12:06:41	726.68	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
07/25/90	12:10:57	730.95	419	Address azimuth position A
	12:11:29	731.48	207	Data command, high byte
	12:12:01	732.02	1B6	Data command, low byte
End azimuth angle load commands (A = 148.05°). Begin solar calibration sequence.				
07/25/90	12:13:05	733.08	822	Elevate to solar ports (Sun)
	12:45:05	765.08	814	Azimuth to position A
	12:46:09	766.15	883	Detector bias heater on at level 2
	13:02:09	782.15	831	SMA shutter cycle on
	13:37:21	817.35	832	SMA shutter cycle off
	13:37:53	817.88	881	Detector bias heater off
	13:57:05	837.08	882	Detector bias heater on at level 1
	13:59:45	839.75	881	Detector bias heater off
	14:00:17	840.28	883	Detector bias heater on at level 2
	14:02:57	842.95	881	Detector bias heater off
	14:03:29	843.48	884	Detector bias heater on at level 3
	14:06:09	846.15	881	Detector bias heater off
	14:06:41	846.68	852	Solar port heaters off
	14:22:41	862.68	851	Solar port heaters on

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
07/25/90	14:23:13	863.22	821	Elevate to internal source (stow)
	15:27:13	927.22	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
07/25/90	16:51:29	1011.48	882	Detector bias heater on at level 1
	16:54:09	1014.15	881	Detector bias heater off
	16:54:41	1014.68	883	Detector bias heater on at level 2
	16:57:21	1017.35	881	Detector bias heater off
	16:57:53	1017.88	884	Detector bias heater on at level 3
	17:00:33	1020.55	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
08/01/90	07:25:37	445.62	882	Detector bias heater on at level 1
	07:28:17	448.28	881	Detector bias heater off
	07:28:49	448.82	883	Detector bias heater on at level 2
	07:31:29	451.48	881	Detector bias heater off
	07:32:01	452.02	884	Detector bias heater on at level 3
	07:34:41	454.68	881	Detector bias heater off
	08:06:09	486.15	821	Elevate to internal source (stow)
	08:22:09	502.15	862	WFOV BB heater on at temp. 1
	08:38:09	518.15	872	MFOV BB heater on at temp. 1
	09:49:05	589.08	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
08/01/90	09:50:09	590.15	881	Detector bias heater off
	09:50:41	590.68	852	Solar port heaters off
	09:51:13	591.22	821	Elevate to internal source (stow)

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
08/01/90	09:51:45	591.75	851	Solar port heaters on
	09:53:53	593.88	882	Detector bias heater on at level 1
	09:57:37	597.62	892	SWICS on at level 3
	10:00:49	600.82	881	Detector bias heater off
	10:04:33	604.55	862	WFOV BB heater on at temp. 1
	10:05:05	605.08	872	MFOV BB heater on at temp. 1
	10:06:09	606.15	891	SWICS off
	10:19:29	619.48	883	Detector bias heater on at level 2
	10:23:13	623.22	893	SWICS on at level 2
	10:26:25	626.42	881	Detector bias heater off
	10:30:09	630.15	863	WFOV BB heater on at temp. 2
	10:30:41	630.68	873	MFOV BB heater on at temp. 2
	10:31:45	631.75	891	SWICS off
	10:45:05	645.08	884	Detector bias heater on at level 3
	10:48:49	648.82	894	SWICS on at level 1
	10:50:57	650.95	881	Detector bias heater off
	10:53:37	653.62	852	Solar port heaters off
	10:55:13	655.22	871	MFOV BB heater off
	10:55:45	655.75	851	Solar port heaters on
	10:56:17	656.28	891	SWICS off
End internal calibration sequence.				
08/01/90	11:06:57	666.95	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
08/01/90	11:11:13	671.22	419	Address azimuth position A
	11:11:45	671.75	207	Data command, high byte
	11:12:17	672.28	1C9	Data command, low byte

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Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
End azimuth angle load commands (A = 149.48°). Begin solar calibration sequence.				
08/01/90	11:13:21	673.35	822	Elevate to solar ports (Sun)
	11:45:21	705.35	814	Azimuth to position A
	11:46:25	706.42	883	Detector bias heater on at level 2
	12:50:57	770.95	881	Detector bias heater off
	13:21:53	801.88	852	Solar port heaters off
	13:22:57	802.95	851	Solar port heaters on
	13:23:29	803.48	821	Elevate to internal source (stow)
	14:27:29	867.48	823	Elevate to nadir (Earth)
Entire solar calibration obscured by fill data and data dropout. End solar calibration sequence. Begin postcalibration sequence.				
08/01/90	15:51:45	951.75	882	Detector bias heater on at level 1
	15:54:25	954.42	881	Detector bias heater off
	15:54:57	954.95	883	Detector bias heater on at level 2
	15:57:37	957.62	881	Detector bias heater off
	15:58:09	958.15	884	Detector bias heater on at level 3
	16:00:49	960.82	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
08/08/90	08:06:41	486.68	882	Detector bias heater on at level 1
	08:09:21	489.35	881	Detector bias heater off
	08:09:53	489.88	883	Detector bias heater on at level 2
	08:12:33	492.55	881	Detector bias heater off
	08:13:05	493.08	884	Detector bias heater on at level 3
	08:15:45	495.75	881	Detector bias heater off
	08:47:13	527.22	821	Elevate to internal source (stow)

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
08/08/90	09:03:13	543.22	862	WFOV BB heater on at temp. 1
	09:19:13	559.22	872	MFOV BB heater on at temp. 1
	10:30:09	630.15	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
08/08/90	10:31:13	631.22	881	Detector bias heater off
	10:31:45	631.75	852	Solar port heaters off
	10:32:17	632.28	821	Elevate to internal source (stow)
	10:32:49	632.82	851	Solar port heaters on
	10:34:57	634.95	882	Detector bias heater on at level 1
	10:38:41	638.68	892	SWICS on at level 3
	10:41:53	641.88	881	Detector bias heater off
	10:45:37	645.62	862	WFOV BB heater on at temp. 1
	10:46:09	646.15	872	MFOV BB heater on at temp. 1
	10:47:13	647.22	891	SWICS off
	11:00:33	660.55	883	Detector bias heater on at level 2
	11:04:17	664.28	893	SWICS on at level 2
	11:07:29	667.48	881	Detector bias heater off
	11:11:13	671.22	863	WFOV BB heater on at temp. 2
	11:11:45	671.75	873	MFOV BB heater on at temp. 2
	11:12:49	672.82	891	SWICS off
	11:26:09	686.15	884	Detector bias heater on at level 3
	11:29:53	689.88	894	SWICS on at level 1
	11:32:01	692.02	881	Detector bias heater off
	11:34:41	694.68	852	Solar port heaters off
	11:35:45	695.75	861	WFOV BB heater off
	11:36:17	696.28	871	MFOV BB heater off

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Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
08/08/90	11:36:49	696.82	851	Solar port heaters on
	11:37:21	697.35	891	SWICS off
End internal calibration sequence.				
08/08/90	11:48:01	708.02	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
08/08/90	11:52:17	712.28	419	Address azimuth position A
	11:52:49	712.82	207	Data command, high byte
	11:53:21	713.35	1DE	Data command, low byte
End azimuth angle load commands (A = 151.05°). Begin solar calibration sequence.				
08/08/90	11:54:25	714.42	822	Elevate to solar ports (Sun)
	12:26:25	746.42	814	Azimuth to position A
	12:27:29	747.48	883	Detector bias heater on at level 2
	12:43:29	763.48	831	SMA shutter cycle on
	13:18:41	798.68	832	SMA shutter cycle off
	13:19:13	799.22	881	Detector bias heater off
	13:38:25	818.42	882	Detector bias heater on at level 1
	13:41:05	821.08	881	Detector bias heater off
	13:41:37	821.62	883	Detector bias heater on at level 2
	13:44:17	824.28	881	Detector bias heater off
	13:44:49	824.82	884	Detector bias heater on at level 3
	13:47:29	827.48	881	Detector bias heater off
	13:48:01	828.02	852	Solar port heaters off
	14:04:01	844.02	851	Solar port heaters on
	14:04:33	844.55	821	Elevate to internal source (stow)
	15:08:33	908.55	823	Elevate to nadir (Earth)
End solar calibration sequence.				

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
Begin postcalibration sequence.				
08/08/90	16:32:49	992.82	882	Detector bias heater on at level 1
	16:35:29	995.48	881	Detector bias heater off
	16:36:01	996.02	883	Detector bias heater on at level 2
	16:38:41	998.68	881	Detector bias heater off
	16:39:13	999.22	884	Detector bias heater on at level 3
	16:41:53	1001.88	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
08/15/90	07:06:57	426.95	882	Detector bias heater on at level 1
	07:09:37	429.62	881	Detector bias heater off
	07:10:09	430.15	883	Detector bias heater on at level 2
	07:12:49	432.82	881	Detector bias heater off
	07:13:21	433.35	884	Detector bias heater on at level 3
	07:16:01	436.02	881	Detector bias heater off
	07:47:29	467.48	821	Elevate to internal source (stow)
	08:03:29	483.48	862	WFOV BB heater on at temp. 1
	08:19:29	499.48	872	MFOV BB heater on at temp. 1
Some commands obscured by data dropout. End preinternal calibration sequence. Begin internal calibration sequence.				
08/15/90	09:32:33	572.55	821	Elevate to internal source (stow)
	09:33:05	573.08	851	Solar port heaters on
	09:35:13	575.22	882	Detector bias heater on at level 1
	09:38:57	578.95	892	SWICS on at level 3
	09:42:09	582.15	881	Detector bias heater off
	09:45:53	585.88	862	WFOV BB heater on at temp. 1

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
08/15/90	09:46:25	586.42	872	MFOV BB heater on at temp. 1
	09:47:29	587.48	891	SWICS off
	10:00:49	600.82	883	Detector bias heater on at level 2
	10:04:33	604.55	893	SWICS on at level 2
	10:07:45	607.75	881	Detector bias heater off
	10:11:29	611.48	863	WFOV BB heater on at temp. 2
	10:12:01	612.02	873	MFOV BB heater on at temp. 2
	10:13:05	613.08	891	SWICS off
	10:26:25	626.42	884	Detector bias heater on at level 3
	10:30:09	630.15	894	SWICS on at level 1
	10:32:17	632.28	881	Detector bias heater off
	10:34:57	634.95	852	Solar port heaters off
	10:36:01	636.02	861	WFOV BB heater off
	10:36:33	636.55	871	MFOV BB heater off
	10:37:05	637.08	851	Solar port heaters on
	10:37:37	637.62	891	SWICS off
Some commands obscured by data dropout. End internal calibration sequence.				
08/15/90	10:48:17	648.28	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
08/15/90	10:52:33	652.55	419	Address azimuth position A
	10:53:05	653.08	207	Data command, high byte
	10:53:37	653.62	1F3	Data command, low byte
End azimuth angle load commands (A = 152.62°). Begin solar calibration sequence.				
08/15/90	10:54:41	654.68	822	Elevate to solar ports (Sun)
	11:26:41	686.68	814	Azimuth to position A

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
08/15/90	11:27:45	687.75	883	Detector bias heater on at level 2
	11:43:45	703.75	831	SMA shutter cycle on
	12:18:57	738.95	832	SMA shutter cycle off
	12:19:29	739.48	881	Detector bias heater off
	12:38:41	758.68	882	Detector bias heater on at level 1
	12:41:21	761.35	881	Detector bias heater off
	12:41:53	761.88	883	Detector bias heater on at level 2
	12:44:33	764.55	881	Detector bias heater off
	12:45:05	765.08	884	Detector bias heater on at level 3
	12:47:45	767.75	881	Detector bias heater off
	12:48:17	768.28	852	Solar port heaters off
	13:04:17	784.28	851	Solar port heaters on
	13:04:49	784.82	821	Elevate to internal source (stow)
	14:08:49	848.82	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
08/15/90	15:33:05	933.08	882	Detector bias heater on at level 1
	15:35:45	935.75	881	Detector bias heater off
	15:36:17	936.28	883	Detector bias heater on at level 2
	15:38:57	938.95	881	Detector bias heater off
	15:39:29	939.48	884	Detector bias heater on at level 3
	15:42:09	942.15	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
08/22/90	07:48:33	468.55	882	Detector bias heater on at level 1
	07:51:13	471.22	881	Detector bias heater off
	07:51:45	471.75	883	Detector bias heater on at level 2

Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
08/22/90	07:54:25	474.42	881	Detector bias heater off
	07:54:57	474.95	884	Detector bias heater on at level 3
	07:57:37	477.62	881	Detector bias heater off
	08:29:05	509.08	821	Elevate to internal source (stow)
	08:45:05	525.08	862	WFOV BB heater on at temp. 1
	09:01:05	541.08	872	MFOV BB heater on at temp. 1
	10:12:01	612.02	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
08/22/90	10:13:05	613.08	881	Detector bias heater off
	10:13:37	613.62	852	Solar port heaters off
	10:14:09	614.15	821	Elevate to internal source (stow)
	10:14:41	614.68	851	Solar port heaters on
	10:16:49	616.82	882	Detector bias heater on at level 1
	10:20:33	620.55	892	SWICS on at level 3
	10:23:45	623.75	881	Detector bias heater off
	10:27:29	627.48	862	WFOV BB heater on at temp. 1
	10:28:01	628.02	872	MFOV BB heater on at temp. 1
	10:29:05	629.08	891	SWICS off
	10:42:25	642.42	883	Detector bias heater on at level 2
	10:46:09	646.15	893	SWICS on at level 2
	10:49:21	649.35	881	Detector bias heater off
	10:53:05	653.08	863	WFOV BB heater on at temp. 2
	10:53:37	653.62	873	MFOV BB heater on at temp. 2
	10:54:41	654.68	891	SWICS off
	11:08:01	668.02	884	Detector bias heater on at level 3
	11:11:45	671.75	894	SWICS on at level 1

Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
08/22/90	11:13:53	673.88	881	Detector bias heater off
	11:16:33	676.55	852	Solar port heaters off
	11:17:37	677.62	861	WFOV BB heater off
	11:18:09	678.15	871	MFOV BB heater off
	11:18:41	678.68	851	Solar port heaters on
	11:19:13	679.22	891	SWICS off
End internal calibration sequence.				
08/22/90	11:29:53	689.88	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
08/22/90	11:34:09	694.15	419	Address azimuth position A
	11:34:41	694.68	208	Data command, high byte
	11:35:13	695.22	109	Data command, low byte
End azimuth angle load commands (A = 154.28°). Begin solar calibration sequence.				
08/22/90	11:36:17	696.28	822	Elevate to solar ports (Sun)
	12:08:17	728.28	814	Azimuth to position A
	12:09:21	729.35	883	Detector bias heater on at level 2
	12:25:21	745.35	831	SMA shutter cycle on
	13:00:33	780.55	832	SMA shutter cycle off
	13:01:05	781.08	881	Detector bias heater off
	13:20:17	800.28	882	Detector bias heater on at level 1
	13:22:57	802.95	881	Detector bias heater off
	13:23:29	803.48	883	Detector bias heater on at level 2
	13:26:09	806.15	881	Detector bias heater off
	13:26:41	806.68	884	Detector bias heater on at level 3
	13:29:21	809.35	881	Detector bias heater off
	13:29:53	809.88	852	Solar port heaters off

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
08/22/90	13:45:53	825.88	851	Solar port heaters on
	13:46:25	826.42	821	Elevate to internal source (stow)
	14:50:25	890.42	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
08/22/90	16:14:41	974.68	882	Detector bias heater on at level 1
	16:17:21	977.35	881	Detector bias heater off
	16:17:53	977.88	883	Detector bias heater on at level 2
	16:20:33	980.55	881	Detector bias heater off
	16:21:05	981.08	884	Detector bias heater on at level 3
	16:23:45	983.75	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
08/29/90	08:30:41	510.68	882	Detector bias heater on at level 1
	08:33:21	513.35	881	Detector bias heater off
	08:33:53	513.88	883	Detector bias heater on at level 2
	08:36:33	516.55	881	Detector bias heater off
	08:37:05	517.08	884	Detector bias heater on at level 3
	08:39:45	519.75	881	Detector bias heater off
	09:11:13	551.22	821	Elevate to internal source (stow)
	09:27:13	567.22	862	WFOV BB heater on at temp. 1
	09:43:13	583.22	872	MFOV BB heater on at temp. 1
	10:54:09	654.15	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
08/29/90	10:55:13	655.22	881	Detector bias heater off
	10:55:45	655.75	852	Solar port heaters off

Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
08/29/90	10:56:17	656.28	821	Elevate to internal source (stow)
	10:56:49	656.82	851	Solar port heaters on
	10:58:57	658.95	882	Detector bias heater on at level 1
	11:02:41	662.68	892	SWICS on at level 3
	11:05:53	665.88	881	Detector bias heater off
	11:09:37	669.62	862	WFOV BB heater on at temp. 1
	11:10:09	670.15	872	MFOV BB heater on at temp. 1
	11:11:13	671.22	891	SWICS off
	11:24:33	684.55	883	Detector bias heater on at level 2
	11:28:17	688.28	893	SWICS on at level 2
	11:31:29	691.48	881	Detector bias heater off
	11:35:13	695.22	863	WFOV BB heater on at temp. 2
	11:35:45	695.75	873	MFOV BB heater on at temp. 2
	11:36:49	696.82	891	SWICS off
	11:50:09	710.15	884	Detector bias heater on at level 3
	11:53:53	713.88	894	SWICS on at level 1
	11:56:01	716.02	881	Detector bias heater off
	11:58:41	718.68	852	Solar port heaters off
	11:59:45	719.75	861	WFOV BB heater off
	12:00:17	720.28	871	MFOV BB heater off
	12:00:49	720.82	851	Solar port heaters on
	12:01:21	721.35	891	SWICS off

End internal calibration sequence.

| 08/29/90 | 12:12:01 | 732.02 | 823 | Elevate to nadir (Earth) |

Begin azimuth angle load commands for solar calibration.

| 08/29/90 | 12:16:17 | 736.28 | 419 | Address azimuth position A |

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Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
08/29/90	12:16:49	736.82	208	Data command, high byte
	12:17:21	737.35	11D	Data command, low byte
End azimuth angle load commands (A = 155.78°). Begin solar calibration sequence.
08/29/90	12:18:25	738.42	822	Elevate to solar ports (Sun)
	12:50:25	770.42	814	Azimuth to position A
	12:51:29	771.48	883	Detector bias heater on at level 2
	13:07:29	787.48	831	SMA shutter cycle on
	13:42:41	822.68	832	SMA shutter cycle off
	13:43:13	823.22	881	Detector bias heater off
	14:02:25	842.42	882	Detector bias heater on at level 1
	14:05:05	845.08	881	Detector bias heater off
	14:05:37	845.62	883	Detector bias heater on at level 2
	14:08:17	848.28	881	Detector bias heater off
	14:08:49	848.82	884	Detector bias heater on at level 3
	14:11:29	851.48	881	Detector bias heater off
	14:12:01	852.02	852	Solar port heaters off
	14:28:01	868.02	851	Solar port heaters on
	14:28:33	868.55	821	Elevate to internal source (stow)
	15:32:33	932.55	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.
08/29/90	16:56:49	1016.82	882	Detector bias heater on at level 1
	16:59:29	1019.48	881	Detector bias heater off
	17:00:01	1020.02	883	Detector bias heater on at level 2
	17:02:41	1022.68	881	Detector bias heater off
	17:03:13	1023.22	884	Detector bias heater on at level 3

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Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
08/29/90	17:05:53	1025.88	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
09/05/90	07:31:29	451.48	882	Detector bias heater on at level 1
	07:34:09	454.15	881	Detector bias heater off
	07:34:41	454.68	883	Detector bias heater on at level 2
	07:37:21	457.35	881	Detector bias heater off
	07:37:53	457.88	884	Detector bias heater on at level 3
	07:40:33	460.55	881	Detector bias heater off
	08:12:01	492.02	821	Elevate to internal source (stow)
	08:28:01	508.02	862	WFOV BB heater on at temp. 1
	08:44:01	524.02	872	MFOV BB heater on at temp. 1
	09:54:57	594.95	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
09/05/90	09:56:01	596.02	881	Detector bias heater off
	09:56:33	596.55	852	Solar port heaters off
	09:57:05	597.08	821	Elevate to internal source (stow)
	09:57:37	597.62	851	Solar port heaters on
	09:59:45	599.75	882	Detector bias heater on at level 1
	10:03:29	603.48	892	SWICS on at level 3
	10:06:41	606.68	881	Detector bias heater off
	10:10:25	610.42	862	WFOV BB heater on at temp. 1
	10:10:57	610.95	872	MFOV BB heater on at temp. 1
	10:12:01	612.02	891	SWICS off
	10:25:21	625.35	883	Detector bias heater on at level 2
	10:29:05	629.08	893	SWICS on at level 2

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Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
09/05/90	10:32:17	632.28	881	Detector bias heater off
	10:36:01	636.02	863	WFOV BB heater on at temp. 2
	10:36:33	636.55	873	MFOV BB heater on at temp. 2
	10:37:37	637.62	891	SWICS off
	10:50:57	650.95	884	Detector bias heater on at level 3
	10:54:41	654.68	894	SWICS on at level 1
	10:56:49	656.82	881	Detector bias heater off
	10:59:29	659.48	852	Solar port heaters off
	11:00:33	660.55	861	WFOV BB heater off
	11:01:05	661.08	871	MFOV BB heater off
	11:01:37	661.62	851	Solar port heaters on
	11:02:09	662.15	891	SWICS off
End internal calibration sequence.				
09/05/90	11:12:49	672.82	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
09/05/90	11:17:05	677.08	419	Address azimuth position A
	11:17:37	677.62	208	Data command, high byte
	11:18:09	678.15	12F	Data command, low byte
End azimuth angle load commands (A = 157.12°). Begin solar calibration sequence.				
09/05/90	11:19:13	679.22	822	Elevate to solar ports (Sun)
	11:51:13	711.22	814	Azimuth to position A
	11:52:17	712.28	883	Detector bias heater on at level 2
	12:08:17	728.28	831	SMA shutter cycle on
	12:43:29	763.48	832	SMA shutter cycle off
	12:44:01	764.02	881	Detector bias heater off
	13:03:13	783.22	882	Detector bias heater on at level 1

Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
09/05/90	13:05:53	785.88	881	Detector bias heater off
	13:06:25	786.42	883	Detector bias heater on at level 2
	13:09:05	789.08	881	Detector bias heater off
	13:09:37	789.62	884	Detector bias heater on at level 3
	13:12:17	792.28	881	Detector bias heater off
	13:12:49	792.82	852	Solar port heaters off
	13:28:49	808.82	851	Solar port heaters on
	13:29:21	809.35	821	Elevate to internal source (stow)
	14:33:21	873.35	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
09/05/90	15:57:37	957.62	882	Detector bias heater on at level 1
	16:00:17	960.28	881	Detector bias heater off
	16:00:49	960.82	883	Detector bias heater on at level 2
	16:03:29	963.48	881	Detector bias heater off
	16:04:01	964.02	884	Detector bias heater on at level 3
	16:06:41	966.68	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
09/12/90	08:13:37	493.62	882	Detector bias heater on at level 1
	08:16:17	496.28	881	Detector bias heater off
	08:16:49	496.82	883	Detector bias heater on at level 2
	08:19:29	499.48	881	Detector bias heater off
	08:20:01	500.02	884	Detector bias heater on at level 3
	08:22:41	502.68	881	Detector bias heater off
	08:54:09	534.15	821	Elevate to internal source (stow)
	09:10:09	550.15	862	WFOV BB heater on at temp. 1

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
09/12/90	09:26:09	566.15	872	MFOV BB heater on at temp. 1
	10:37:05	637.08	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
09/12/90	10:38:09	638.15	881	Detector bias heater off
	10:38:41	638.68	852	Solar port heaters off
	10:39:13	639.22	821	Elevate to internal source (stow)
	10:39:45	639.75	851	Solar port heaters on
	10:41:53	641.88	882	Detector bias heater on at level 1
	10:45:37	645.62	892	SWICS on at level 3
	10:48:49	648.82	881	Detector bias heater off
	10:52:33	652.55	862	WFOV BB heater on at temp. 1
	10:53:05	653.08	872	MFOV BB heater on at temp. 1
	10:54:09	654.15	891	SWICS off
	11:07:29	667.48	883	Detector bias heater on at level 2
	11:11:13	671.22	893	SWICS on at level 2
	11:14:25	674.42	881	Detector bias heater off
	11:18:09	678.15	863	WFOV BB heater on at temp. 2
	11:18:41	678.68	873	MFOV BB heater on at temp. 2
	11:19:45	679.75	891	SWICS off
	11:33:05	693.08	884	Detector bias heater on at level 3
	11:36:49	696.82	894	SWICS on at level 1
	11:38:57	698.95	881	Detector bias heater off
	11:41:37	701.62	852	Solar port heaters off
	11:42:41	702.68	861	WFOV BB heater off
	11:43:13	703.22	871	MFOV BB heater off
	11:43:45	703.75	851	Solar port heaters on

Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
09/12/90	11:44:17	704.28	891	SWICS off
End internal calibration sequence.				
09/12/90	11:54:57	714.95	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
09/12/90	11:59:13	719.22	419	Address azimuth position A
	11:59:45	719.75	208	Data command, high byte
	12:00:17	720.28	13F	Data command, low byte
End azimuth angle load commands (A = 158.33°). Begin solar calibration sequence.				
09/12/90	12:01:21	721.35	822	Elevate to solar ports (Sun)
	12:33:21	753.35	814	Azimuth to position A
	12:34:25	754.42	883	Detector bias heater on at level 2
	12:50:25	770.42	831	SMA shutter cycle on
	13:25:37	805.62	832	SMA shutter cycle off
	13:26:09	806.15	881	Detector bias heater off
	13:45:21	825.35	882	Detector bias heater on at level 1
	13:48:01	828.02	881	Detector bias heater off
	13:48:33	828.55	883	Detector bias heater on at level 2
	13:51:13	831.22	881	Detector bias heater off
	13:51:45	831.75	884	Detector bias heater on at level 3
	13:54:25	834.42	881	Detector bias heater off
	13:54:57	834.95	852	Solar port heaters off
	14:10:57	850.95	851	Solar port heaters on
	14:11:29	851.48	821	Elevate to internal source (stow)
	15:15:29	915.48	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
09/12/90	16:39:45	999.75	882	Detector bias heater on at level 1
	16:42:25	1002.42	881	Detector bias heater off
	16:42:57	1002.95	883	Detector bias heater on at level 2
	16:45:37	1005.62	881	Detector bias heater off
	16:46:09	1006.15	884	Detector bias heater on at level 3
	16:48:49	1008.82	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
09/19/90	07:14:25	434.42	882	Detector bias heater on at level 1
	07:17:05	437.08	881	Detector bias heater off
	07:17:37	437.62	883	Detector bias heater on at level 2
	07:20:17	440.28	881	Detector bias heater off
	07:20:49	440.82	884	Detector bias heater on at level 3
	07:23:29	443.48	881	Detector bias heater off
	07:54:57	474.95	821	Elevate to internal source (stow)
	08:10:57	490.95	862	WFOV BB heater on at temp. 1
	08:26:57	506.95	872	MFOV BB heater on at temp. 1
	09:37:53	577.88	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
09/19/90	09:38:57	578.95	881	Detector bias heater off
	09:39:29	579.48	852	Solar port heaters off
	09:40:01	580.02	821	Elevate to internal source (stow)
	09:40:33	580.55	851	Solar port heaters on
	09:42:41	582.68	882	Detector bias heater on at level 1
	09:46:25	586.42	892	SWICS on at level 3
	09:49:37	589.62	881	Detector bias heater off

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
09/19/90	09:53:21	593.35	862	WFOV BB heater on at temp. 1
	09:53:53	593.88	872	MFOV BB heater on at temp. 1
	09:54:57	594.95	891	SWICS off
	10:08:17	608.28	883	Detector bias heater on at level 2
	10:12:01	612.02	893	SWICS on at level 2
	10:15:13	615.22	881	Detector bias heater off
	10:18:57	618.95	863	WFOV BB heater on at temp. 2
	10:19:29	619.48	873	MFOV BB heater on at temp. 2
	10:20:33	620.55	891	SWICS off
	10:33:53	633.88	884	Detector bias heater on at level 3
	10:37:37	637.62	894	SWICS on at level 1
	10:39:45	639.75	881	Detector bias heater off
	10:42:25	642.42	852	Solar port heaters off
	10:43:29	643.48	861	WFOV BB heater off
	10:44:01	644.02	871	MFOV BB heater off
	10:44:33	644.55	851	Solar port heaters on
	10:45:05	645.08	891	SWICS off
End internal calibration sequence.				
09/19/90	10:55:45	655.75	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
09/19/90	11:00:01	660.02	419	Address azimuth position A
	11:00:33	660.55	208	Data command, high byte
	11:01:05	661.08	14B	Data command, low byte
End azimuth angle load commands (A = 159.23°). Begin solar calibration sequence.				
09/19/90	11:02:09	662.15	822	Elevate to solar ports (Sun)
	11:34:09	694.15	814	Azimuth to position A

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
09/19/90	11:35:13	695.22	883	Detector bias heater on at level 2
	11:51:13	711.22	831	SMA shutter cycle on
	12:26:25	746.42	832	SMA shutter cycle off
	12:26:57	746.95	881	Detector bias heater off
	12:46:09	766.15	882	Detector bias heater on at level 1
	12:48:49	768.82	881	Detector bias heater off
	12:49:21	769.35	883	Detector bias heater on at level 2
	12:52:01	772.02	881	Detector bias heater off
	12:52:33	772.55	884	Detector bias heater on at level 3
	12:55:13	775.22	881	Detector bias heater off
	12:55:45	775.75	852	Solar port heaters off
	13:11:45	791.75	851	Solar port heaters on
	13:12:17	792.28	821	Elevate to internal source (stow)
	14:16:17	856.28	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
09/19/90	15:40:33	940.55	882	Detector bias heater on at level 1
	15:43:13	943.22	881	Detector bias heater off
	15:43:45	943.75	883	Detector bias heater on at level 2
	15:46:25	946.42	881	Detector bias heater off
	15:46:57	946.95	884	Detector bias heater on at level 3
	15:49:37	949.62	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
09/26/90	07:56:33	476.55	882	Detector bias heater on at level 1
	07:59:13	479.22	881	Detector bias heater off
	07:59:45	479.75	883	Detector bias heater on at level 2

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
09/26/90	08:02:25	482.42	881	Detector bias heater off
	08:02:57	482.95	884	Detector bias heater on at level 3
	08:05:37	485.62	881	Detector bias heater off
	08:37:05	517.08	821	Elevate to internal source (stow)
	08:53:05	533.08	862	WFOV BB heater on at temp. 1
	09:09:05	549.08	872	MFOV BB heater on at temp. 1
	10:20:01	620.02	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
09/26/90	10:21:05	621.08	881	Detector bias heater off
	10:21:37	621.62	852	Solar port heaters off
	10:22:09	622.15	821	Elevate to internal source (stow)
	10:22:41	622.68	851	Solar port heaters on
	10:24:49	624.82	882	Detector bias heater on at level 1
	10:28:33	628.55	892	SWICS on at level 3
	10:31:45	631.75	881	Detector bias heater off
	10:35:29	635.48	862	WFOV BB heater on at temp. 1
	10:36:01	636.02	872	MFOV BB heater on at temp. 1
	10:37:05	637.08	891	SWICS off
	10:50:25	650.42	883	Detector bias heater on at level 2
	10:54:09	654.15	893	SWICS on at level 2
	10:57:21	657.35	881	Detector bias heater off
	11:01:05	661.08	863	WFOV BB heater on at temp. 2
	11:01:37	661.62	873	MFOV BB heater on at temp. 2
	11:02:41	662.68	891	SWICS off
	11:16:01	676.02	884	Detector bias heater on at level 3
	11:19:45	679.75	894	SWICS on at level 1

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Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
09/26/90	11:21:53	681.88	881	Detector bias heater off
	11:24:33	684.55	852	Solar port heaters off
	11:25:37	685.62	861	WFOV BB heater off
	11:26:09	686.15	871	MFOV BB heater off
	11:26:41	686.68	851	Solar port heaters on
	11:27:13	687.22	891	SWICS off
End internal calibration sequence.				
09/26/90	11:37:53	697.88	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
09/26/90	11:42:09	702.15	419	Address azimuth position A
	11:42:41	702.68	208	Data command, high byte
	11:43:13	703.22	153	Data command, low byte
End azimuth angle load commands (A = 159.83°). Begin solar calibration sequence.				
09/26/90	11:44:17	704.28	822	Elevate to solar ports (Sun)
	12:16:17	736.28	814	Azimuth to position A
	12:17:21	737.35	883	Detector bias heater on at level 2
	12:33:21	753.35	831	SMA shutter cycle on
	13:08:33	788.55	832	SMA shutter cycle off
	13:09:05	789.08	881	Detector bias heater off
	13:28:17	808.28	882	Detector bias heater on at level 1
	13:30:57	810.95	881	Detector bias heater off
	13:31:29	811.48	883	Detector bias heater on at level 2
	13:34:09	814.15	881	Detector bias heater off
	13:34:41	814.68	884	Detector bias heater on at level 3
	13:37:21	817.35	881	Detector bias heater off
	13:37:53	817.88	852	Solar port heaters off

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Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
09/26/90	13:53:53	833.88	851	Solar port heaters on
	13:54:25	834.42	821	Elevate to internal source (stow)
	14:58:25	898.42	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
09/26/90	16:22:41	982.68	882	Detector bias heater on at level 1
	16:25:21	985.35	881	Detector bias heater off
	16:25:53	985.88	883	Detector bias heater on at level 2
	16:28:33	988.55	881	Detector bias heater off
	16:29:05	989.08	884	Detector bias heater on at level 3
	16:31:45	991.75	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
10/03/90	08:38:41	518.68	882	Detector bias heater on at level 1
	08:41:21	521.35	881	Detector bias heater off
	08:41:53	521.88	883	Detector bias heater on at level 2
	08:44:33	524.55	881	Detector bias heater off
	08:45:05	525.08	884	Detector bias heater on at level 3
	08:47:45	527.75	881	Detector bias heater off
	09:19:13	559.22	821	Elevate to internal source (stow)
	09:35:13	575.22	862	WFOV BB heater on at temp. 1
	09:51:13	591.22	872	MFOV BB heater on at temp. 1
	11:02:09	662.15	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
10/03/90	11:03:13	663.22	881	Detector bias heater off
	11:03:45	663.75	852	Solar port heaters off

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
10/03/90	11:04:17	664.28	821	Elevate to internal source (stow)
	11:04:49	664.82	851	Solar port heaters on
	11:06:57	666.95	882	Detector bias heater on at level 1
	11:10:41	670.68	892	SWICS on at level 3
	11:13:53	673.88	881	Detector bias heater off
	11:17:37	677.62	862	WFOV BB heater on at temp. 1
	11:18:09	678.15	872	MFOV BB heater on at temp. 1
	11:19:13	679.22	891	SWICS off
	11:32:33	692.55	883	Detector bias heater on at level 2
	11:36:17	696.28	893	SWICS on at level 2
	11:39:29	699.48	881	Detector bias heater off
	11:43:13	703.22	863	WFOV BB heater on at temp. 2
	11:43:45	703.75	873	MFOV BB heater on at temp. 2
	11:44:49	704.82	891	SWICS off
	11:58:09	718.15	884	Detector bias heater on at level 3
	12:01:53	721.88	894	SWICS on at level 1
	12:04:01	724.02	881	Detector bias heater off
	12:06:41	726.68	852	Solar port heaters off
	12:07:45	727.75	861	WFOV BB heater off
	12:08:17	728.28	871	MFOV BB heater off
	12:08:49	728.82	851	Solar port heaters on
	12:09:21	729.35	891	SWICS off
End internal calibration sequence.				
10/03/90	12:20:01	740.02	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
10/03/90	12:24:17	744.28	419	Address azimuth position A

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
10/03/90	12:24:49	744.82	208	Data command, high byte
	12:25:21	745.35	157	Data command, low byte
End azimuth angle load commands (A = 160.12°). Begin solar calibration sequence.				
10/03/90	12:26:25	746.42	822	Elevate to solar ports (Sun)
	12:58:25	778.42	814	Azimuth to position A
	12:59:29	779.48	883	Detector bias heater on at level 2
	13:15:29	795.48	831	SMA shutter cycle on
	13:50:41	830.68	832	SMA shutter cycle off
	13:51:13	831.22	881	Detector bias heater off
	14:10:25	850.42	882	Detector bias heater on at level 1
	14:13:05	853.08	881	Detector bias heater off
	14:13:37	853.62	883	Detector bias heater on at level 2
	14:16:17	856.28	881	Detector bias heater off
	14:16:49	856.82	884	Detector bias heater on at level 3
	14:19:29	859.48	881	Detector bias heater off
	14:20:01	860.02	852	Solar port heaters off
	14:36:01	876.02	851	Solar port heaters on
	14:36:33	876.55	821	Elevate to internal source (stow)
	15:40:33	940.55	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
10/03/90	17:04:49	1024.82	882	Detector bias heater on at level 1
	17:07:29	1027.48	881	Detector bias heater off
	17:08:01	1028.02	883	Detector bias heater on at level 2
	17:10:41	1030.68	881	Detector bias heater off
	17:11:13	1031.22	884	Detector bias heater on at level 3

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
10/03/90	17:13:53	1033.88	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
10/10/90	07:38:57	458.95	882	Detector bias heater on at level 1
	07:41:37	461.62	881	Detector bias heater off
	07:42:09	462.15	883	Detector bias heater on at level 2
	07:44:49	464.82	881	Detector bias heater off
	07:45:21	465.35	884	Detector bias heater on at level 3
	07:48:01	468.02	881	Detector bias heater off
	08:19:29	499.48	821	Elevate to internal source (stow)
	08:35:29	515.48	862	WFOV BB heater on at temp. 1
	08:51:29	531.48	872	MFOV BB heater on at temp. 1
	10:02:25	602.42	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
10/10/90	10:03:29	603.48	881	Detector bias heater off
	10:04:01	604.02	852	Solar port heaters off
	10:04:33	604.55	821	Elevate to internal source (stow)
	10:05:05	605.08	851	Solar port heaters on
	10:07:13	607.22	882	Detector bias heater on at level 1
	10:10:57	610.95	892	SWICS on at level 3
	10:14:09	614.15	881	Detector bias heater off
	10:17:53	617.88	862	WFOV BB heater on at temp. 1
	10:18:25	618.42	872	MFOV BB heater on at temp. 1
	10:19:29	619.48	891	SWICS off
	10:32:49	632.82	883	Detector bias heater on at level 2
	10:36:33	636.55	893	SWICS on at level 2

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
10/10/90	10:39:45	639.75	881	Detector bias heater off
	10:43:29	643.48	863	WFOV BB heater on at temp. 2
	10:44:01	644.02	873	MFOV BB heater on at temp. 2
	10:45:05	645.08	891	SWICS off
	10:58:25	658.42	884	Detector bias heater on at level 3
	11:02:09	662.15	894	SWICS on at level 1
	11:04:17	664.28	881	Detector bias heater off
	11:06:57	666.95	852	Solar port heaters off
	11:08:01	668.02	861	WFOV BB heater off
	11:08:33	668.55	871	MFOV BB heater off
	11:09:05	669.08	851	Solar port heaters on
	11:09:37	669.62	891	SWICS off
End internal calibration sequence.				
10/10/90	11:20:17	680.28	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
10/10/90	11:24:33	684.55	419	Address azimuth position A
	11:25:05	685.08	208	Data command, high byte
	11:25:37	685.62	157	Data command, low byte
End azimuth angle load commands (A = 160.12°). Begin solar calibration sequence.				
10/10/90	11:26:41	686.68	822	Elevate to solar ports (Sun)
	11:58:41	718.68	814	Azimuth to position A
	11:59:45	719.75	883	Detector bias heater on at level 2
	12:15:45	735.75	831	SMA shutter cycle on
	12:50:57	770.95	832	SMA shutter cycle off
	12:51:29	771.48	881	Detector bias heater off
	13:10:41	790.68	882	Detector bias heater on at level 1

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
10/10/90	13:13:21	793.35	881	Detector bias heater off
	13:13:53	793.88	883	Detector bias heater on at level 2
	13:16:33	796.55	881	Detector bias heater off
	13:17:05	797.08	884	Detector bias heater on at level 3
	13:19:45	799.75	881	Detector bias heater off
	13:20:17	800.28	852	Solar port heaters off
	13:36:17	816.28	851	Solar port heaters on
	13:36:49	816.82	821	Elevate to internal source (stow)
	14:40:49	880.82	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
10/10/90	16:05:05	965.08	882	Detector bias heater on at level 1
	16:07:45	967.75	881	Detector bias heater off
	16:08:17	968.28	883	Detector bias heater on at level 2
	16:10:57	970.95	881	Detector bias heater off
	16:11:29	971.48	884	Detector bias heater on at level 3
	16:14:09	974.15	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
10/17/90	08:20:33	500.55	882	Detector bias heater on at level 1
	08:23:13	503.22	881	Detector bias heater off
	08:23:45	503.75	883	Detector bias heater on at level 2
	08:26:25	506.42	881	Detector bias heater off
	08:26:57	506.95	884	Detector bias heater on at level 3
	08:29:37	509.62	881	Detector bias heater off
	09:01:05	541.08	821	Elevate to internal source (stow)
	09:17:05	557.08	862	WFOV BB heater on at temp. 1

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Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
10/17/90	09:33:05	573.08	872	MFOV BB heater on at temp. 1
	10:44:01	644.02	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
10/17/90	10:45:05	645.08	881	Detector bias heater off
	10:45:37	645.62	852	Solar port heaters off
	10:46:09	646.15	821	Elevate to internal source (stow)
	10:46:41	646.68	851	Solar port heaters on
	10:48:49	648.82	882	Detector bias heater on at level 1
	10:52:33	652.55	892	SWICS on at level 3
	10:55:45	655.75	881	Detector bias heater off
	10:59:29	659.48	862	WFOV BB heater on at temp. 1
	11:00:01	660.02	872	MFOV BB heater on at temp. 1
	11:01:05	661.08	891	SWICS off
	11:14:25	674.42	883	Detector bias heater on at level 2
	11:18:09	678.15	893	SWICS on at level 2
	11:21:21	681.35	881	Detector bias heater off
	11:25:05	685.08	863	WFOV BB heater on at temp. 2
	11:25:37	685.62	873	MFOV BB heater on at temp. 2
	11:26:41	686.68	891	SWICS off
	11:40:01	700.02	884	Detector bias heater on at level 3
	11:43:45	703.75	894	SWICS on at level 1
	11:45:53	705.88	881	Detector bias heater off
	11:48:33	708.55	852	Solar port heaters off
	11:49:37	709.62	861	WFOV BB heater off
	11:50:09	710.15	871	MFOV BB heater off
	11:50:41	710.68	851	Solar port heaters on

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
10/17/90	11:51:13	711.22	891	SWICS off
End internal calibration sequence.				
10/17/90	12:01:53	721.88	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
10/17/90	12:06:09	726.15	419	Address azimuth position A
	12:06:41	726.68	208	Data command, high byte
	12:07:13	727.22	154	Data command, low byte
End azimuth angle load commands (A = 159.90°). Begin solar calibration sequence.				
10/17/90	12:08:17	728.28	822	Elevate to solar ports (Sun)
	12:40:17	760.28	814	Azimuth to position A
	12:41:21	761.35	883	Detector bias heater on at level 2
	12:57:21	777.35	831	SMA shutter cycle on
	13:32:33	812.55	832	SMA shutter cycle off
	13:33:05	813.08	881	Detector bias heater off
	13:52:17	832.28	882	Detector bias heater on at level 1
	13:54:57	834.95	881	Detector bias heater off
	13:55:29	835.48	883	Detector bias heater on at level 2
	13:58:09	838.15	881	Detector bias heater off
	13:58:41	838.68	884	Detector bias heater on at level 3
	14:01:21	841.35	881	Detector bias heater off
	14:01:53	841.88	852	Solar port heaters off
	14:17:53	857.88	851	Solar port heaters on
	14:18:25	858.42	821	Elevate to internal source (stow)
	15:22:25	922.42	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
10/17/90	16:46:41	1006.68	882	Detector bias heater on at level 1
	16:49:21	1009.35	881	Detector bias heater off
	16:49:53	1009.88	883	Detector bias heater on at level 2
	16:52:33	1012.55	881	Detector bias heater off
	16:53:05	1013.08	884	Detector bias heater on at level 3
	16:55:45	1015.75	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
10/24/90	07:20:49	440.82	882	Detector bias heater on at level 1
	07:23:29	443.48	881	Detector bias heater off
	07:24:01	444.02	883	Detector bias heater on at level 2
	07:26:41	446.68	881	Detector bias heater off
	07:27:13	447.22	884	Detector bias heater on at level 3
	07:29:53	449.88	881	Detector bias heater off
	08:01:21	481.35	821	Elevate to internal source (stow)
	08:17:21	497.35	862	WFOV BB heater on at temp. 1
	08:33:21	513.35	872	MFOV BB heater on at temp. 1
	09:44:17	584.28	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
10/24/90	09:45:21	585.35	881	Detector bias heater off
	09:45:53	585.88	852	Solar port heaters off
	09:46:25	586.42	821	Elevate to internal source (stow)
	09:46:57	586.95	851	Solar port heaters on
	09:49:05	589.08	882	Detector bias heater on at level 1
	09:52:49	592.82	892	SWICS on at level 3
	09:56:01	596.02	881	Detector bias heater off

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Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
10/24/90	09:59:45	599.75	862	WFOV BB heater on at temp. 1
	10:00:17	600.28	872	MFOV BB heater on at temp. 1
	10:01:21	601.35	891	SWICS off
	10:14:41	614.68	883	Detector bias heater on at level 2
	10:18:25	618.42	893	SWICS on at level 2
	10:21:37	621.62	881	Detector bias heater off
	10:25:21	625.35	863	WFOV BB heater on at temp. 2
	10:25:53	625.88	873	MFOV BB heater on at temp. 2
	10:26:57	626.95	891	SWICS off
	10:40:17	640.28	884	Detector bias heater on at level 3
	10:44:01	644.02	894	SWICS on at level 1
	10:46:09	646.15	881	Detector bias heater off
	10:48:49	648.82	852	Solar port heaters off
	10:49:53	649.88	861	WFOV BB heater off
	10:50:25	650.42	871	MFOV BB heater off
	10:50:57	650.95	851	Solar port heaters on
	10:51:29	651.48	891	SWICS off
End internal calibration sequence.				
10/24/90	11:02:09	662.15	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
10/24/90	11:06:25	666.42	419	Address azimuth position A
	11:06:57	666.95	208	Data command, high byte
	11:07:29	667.48	14E	Data command, low byte
End azimuth angle load commands (A = 159.45°). Begin solar calibration sequence.				
10/24/90	11:08:33	668.55	822	Elevate to solar ports (Sun)
	11:40:33	700.55	814	Azimuth to position A

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
10/24/90	11:41:37	701.62	883	Detector bias heater on at level 2
	11:57:37	717.62	831	SMA shutter cycle on
	12:32:49	752.82	832	SMA shutter cycle off
	12:33:21	753.35	881	Detector bias heater off
	12:52:33	772.55	882	Detector bias heater on at level 1
	12:55:13	775.22	881	Detector bias heater off
	12:55:45	775.75	883	Detector bias heater on at level 2
	12:58:25	778.42	881	Detector bias heater off
	12:58:57	778.95	884	Detector bias heater on at level 3
	13:01:37	781.62	881	Detector bias heater off
	13:02:09	782.15	852	Solar port heaters off
	13:18:09	798.15	851	Solar port heaters on
	13:18:41	798.68	821	Elevate to internal source (stow)
	14:22:41	862.68	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
10/24/90	15:46:57	946.95	882	Detector bias heater on at level 1
	15:49:37	949.62	881	Detector bias heater off
	15:50:09	950.15	883	Detector bias heater on at level 2
	15:52:49	952.82	881	Detector bias heater off
	15:53:21	953.35	884	Detector bias heater on at level 3
	15:56:01	956.02	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
10/31/90	08:01:53	481.88	882	Detector bias heater on at level 1
	08:04:33	484.55	881	Detector bias heater off
	08:05:05	485.08	883	Detector bias heater on at level 2

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
10/31/90	08:07:45	487.75	881	Detector bias heater off
	08:08:17	488.28	884	Detector bias heater on at level 3
	08:10:57	490.95	881	Detector bias heater off
	08:42:25	522.42	821	Elevate to internal source (stow)
	08:58:25	538.42	862	WFOV BB heater on at temp. 1
	09:14:25	554.42	872	MFOV BB heater on at temp. 1
	10:25:21	625.35	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
10/31/90	10:26:25	626.42	881	Detector bias heater off
	10:26:57	626.95	852	Solar port heaters off
	10:27:29	627.48	821	Elevate to internal source (stow)
	10:28:01	628.02	851	Solar port heaters on
	10:30:09	630.15	882	Detector bias heater on at level 1
	10:33:53	633.88	892	SWICS on at level 3
	10:37:05	637.08	881	Detector bias heater off
	10:40:49	640.82	862	WFOV BB heater on at temp. 1
	10:41:21	641.35	872	MFOV BB heater on at temp. 1
	10:42:25	642.42	891	SWICS off
	10:55:45	655.75	883	Detector bias heater on at level 2
	10:59:29	659.48	893	SWICS on at level 2
	11:02:41	662.68	881	Detector bias heater off
	11:06:25	666.42	863	WFOV BB heater on at temp. 2
	11:06:57	666.95	873	MFOV BB heater on at temp. 2
	11:08:01	668.02	891	SWICS off
	11:21:21	681.35	884	Detector bias heater on at level 3
	11:25:05	685.08	894	SWICS on at level 1

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
10/31/90	11:27:13	687.22	881	Detector bias heater off
	11:29:53	689.88	852	Solar port heaters off
	11:30:57	690.95	861	WFOV BB heater off
	11:31:29	691.48	871	MFOV BB heater off
	11:32:01	692.02	851	Solar port heaters on
	11:32:33	692.55	891	SWICS off
End internal calibration sequence.				
10/31/90	11:43:13	703.22	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
10/31/90	11:47:29	707.48	419	Address azimuth position A
	11:48:01	708.02	208	Data command, high byte
	11:48:33	708.55	148	Data command, low byte
End azimuth angle load commands (A = 159.00°). Begin solar calibration sequence.				
10/31/90	11:49:37	709.62	822	Elevate to solar ports (Sun)
	12:21:37	741.62	814	Azimuth to position A
	12:22:41	742.68	883	Detector bias heater on at level 2
	12:38:41	758.68	831	SMA shutter cycle on
	13:13:53	793.88	832	SMA shutter cycle off
	13:14:25	794.42	881	Detector bias heater off
	13:33:37	813.62	882	Detector bias heater on at level 1
	13:36:17	816.28	881	Detector bias heater off
	13:36:49	816.82	883	Detector bias heater on at level 2
	13:39:29	819.48	881	Detector bias heater off
	13:40:01	820.02	884	Detector bias heater on at level 3
	13:42:41	822.68	881	Detector bias heater off
	13:43:13	823.22	852	Solar port heaters off

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
10/31/90	13:59:13	839.22	851	Solar port heaters on
	13:59:45	839.75	821	Elevate to internal source (stow)
	15:03:45	903.75	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
10/31/90	16:28:01	988.02	882	Detector bias heater on at level 1
	16:30:41	990.68	881	Detector bias heater off
	16:31:13	991.22	883	Detector bias heater on at level 2
	16:33:53	993.88	881	Detector bias heater off
	16:34:25	994.42	884	Detector bias heater on at level 3
	16:37:05	997.08	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
11/07/90	08:42:57	522.95	882	Detector bias heater on at level 1
	08:45:37	525.62	881	Detector bias heater off
	08:46:09	526.15	883	Detector bias heater on at level 2
	08:48:49	528.82	881	Detector bias heater off
	08:49:21	529.35	884	Detector bias heater on at level 3
	08:52:01	532.02	881	Detector bias heater off
	09:23:29	563.48	821	Elevate to internal source (stow)
	09:39:29	579.48	862	WFOV BB heater on at temp. 1
	09:55:29	595.48	872	MFOV BB heater on at temp. 1
	11:06:25	666.42	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
11/07/90	11:07:29	667.48	881	Detector bias heater off
	11:08:01	668.02	852	Solar port heaters off

Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
11/07/90	11:08:33	668.55	821	Elevate to internal source (stow)
	11:09:05	669.08	851	Solar port heaters on
	11:11:13	671.22	882	Detector bias heater on at level 1
	11:14:57	674.95	892	SWICS on at level 3
	11:18:09	678.15	881	Detector bias heater off
	11:21:53	681.88	862	WFOV BB heater on at temp. 1
	11:22:25	682.42	872	MFOV BB heater on at temp. 1
	11:23:29	683.48	891	SWICS off
	11:36:49	696.82	883	Detector bias heater on at level 2
	11:40:33	700.55	893	SWICS on at level 2
	11:43:45	703.75	881	Detector bias heater off
	11:47:29	707.48	863	WFOV BB heater on at temp. 2
	11:48:01	708.02	873	MFOV BB heater on at temp. 2
	11:49:05	709.08	891	SWICS off
	12:02:25	722.42	884	Detector bias heater on at level 3
	12:06:09	726.15	894	SWICS on at level 1
	12:08:17	728.28	881	Detector bias heater off
	12:10:57	730.95	852	Solar port heaters off
	12:12:01	732.02	861	WFOV BB heater off
	12:12:33	732.55	871	MFOV BB heater off
	12:13:05	733.08	851	Solar port heaters on
	12:13:37	733.62	891	SWICS off
End internal calibration sequence.				
11/07/90	12:24:17	744.28	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
11/07/90	12:28:33	748.55	419	Address azimuth position A

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
11/07/90	12:29:05	749.08	208	Data command, high byte
	12:29:37	749.62	141	Data command, low byte
End azimuth angle load commands (A = 158.48°). Begin solar calibration sequence.				
11/07/90	12:30:41	750.68	822	Elevate to solar ports (Sun)
	13:02:41	782.68	814	Azimuth to position A
	13:03:45	783.75	883	Detector bias heater on at level 2
	13:19:45	799.75	831	SMA shutter cycle on
	13:54:57	834.95	832	SMA shutter cycle off
	13:55:29	835.48	881	Detector bias heater off
	14:14:41	854.68	882	Detector bias heater on at level 1
	14:17:21	857.35	881	Detector bias heater off
	14:17:53	857.88	883	Detector bias heater on at level 2
	14:20:33	860.55	881	Detector bias heater off
	14:21:05	861.08	884	Detector bias heater on at level 3
	14:23:45	863.75	881	Detector bias heater off
	14:24:17	864.28	852	Solar port heaters off
	14:40:17	880.28	851	Solar port heaters on
	14:40:49	880.82	821	Elevate to internal source (stow)
	15:44:49	944.82	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
11/07/90	17:09:05	1029.08	882	Detector bias heater on at level 1
	17:11:45	1031.75	881	Detector bias heater off
	17:12:17	1032.28	883	Detector bias heater on at level 2
	17:14:57	1034.95	881	Detector bias heater off
	17:15:29	1035.48	884	Detector bias heater on at level 3

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
11/07/90	17:18:09	1038.15	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
11/14/90	07:42:09	462.15	882	Detector bias heater on at level 1
	07:44:49	464.82	881	Detector bias heater off
	07:45:21	465.35	883	Detector bias heater on at level 2
	07:48:01	468.02	881	Detector bias heater off
	07:48:33	468.55	884	Detector bias heater on at level 3
	07:51:13	471.22	881	Detector bias heater off
	08:22:41	502.68	821	Elevate to internal source (stow)
	08:38:41	518.68	862	WFOV BB heater on at temp. 1
	08:54:41	534.68	872	MFOV BB heater on at temp. 1
	10:05:37	605.62	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
11/14/90	10:06:41	606.68	881	Detector bias heater off
	10:07:45	607.75	821	Elevate to internal source (stow)
	10:08:17	608.28	851	Solar port heaters on
	10:10:25	610.42	882	Detector bias heater on at level 1
	10:14:09	614.15	892	SWICS on at level 3
	10:17:21	617.35	881	Detector bias heater off
	10:21:05	621.08	862	WFOV BB heater on at temp. 1
	10:21:37	621.62	872	MFOV BB heater on at temp. 1
	10:22:41	622.68	891	SWICS off
	10:36:01	636.02	883	Detector bias heater on at level 2
	10:39:45	639.75	893	SWICS on at level 2
	10:42:57	642.95	881	Detector bias heater off

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
11/14/90	10:46:41	646.68	863	WFOV BB heater on at temp. 2
	10:47:13	647.22	873	MFOV BB heater on at temp. 2
	10:48:17	648.28	891	SWICS off
	11:01:37	661.62	884	Detector bias heater on at level 3
	11:05:21	665.35	894	SWICS on at level 1
	11:07:29	667.48	881	Detector bias heater off
	11:10:09	670.15	852	Solar port heaters off
	11:11:13	671.22	861	WFOV BB heater off
	11:11:45	671.75	871	MFOV BB heater off
	11:12:17	672.28	851	Solar port heaters on
	11:12:49	672.82	891	SWICS off
End internal calibration sequence.				
11/14/90	11:23:29	683.48	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
11/14/90	11:27:45	687.75	419	Address azimuth position A
	11:28:17	688.28	208	Data command, high byte
	11:28:49	688.82	13C	Data command, low byte
End azimuth angle load commands (A = 158.10°). Begin solar calibration sequence.				
11/14/90	11:29:53	689.88	822	Elevate to solar ports (Sun)
	12:01:53	721.88	814	Azimuth to position A
	12:02:57	722.95	883	Detector bias heater on at level 2
	12:18:57	738.95	831	SMA shutter cycle on
	12:54:09	774.15	832	SMA shutter cycle off
	12:54:41	774.68	881	Detector bias heater off
	13:13:53	793.88	882	Detector bias heater on at level 1
	13:16:33	796.55	881	Detector bias heater off

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
11/14/90	13:17:05	797.08	883	Detector bias heater on at level 2
	13:19:45	799.75	881	Detector bias heater off
	13:20:17	800.28	884	Detector bias heater on at level 3
	13:22:57	802.95	881	Detector bias heater off
	13:23:29	803.48	852	Solar port heaters off
	13:39:29	819.48	851	Solar port heaters on
	13:40:01	820.02	821	Elevate to internal source (stow)
	14:44:01	884.02	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
11/14/90	16:08:17	968.28	882	Detector bias heater on at level 1
	16:10:57	970.95	881	Detector bias heater off
	16:11:29	971.48	883	Detector bias heater on at level 2
	16:14:09	974.15	881	Detector bias heater off
	16:14:41	974.68	884	Detector bias heater on at level 3
	16:17:21	977.35	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
11/21/90	08:23:13	503.22	882	Detector bias heater on at level 1
	08:25:53	505.88	881	Detector bias heater off
	08:26:25	506.42	883	Detector bias heater on at level 2
	08:29:05	509.08	881	Detector bias heater off
	08:29:37	509.62	884	Detector bias heater on at level 3
	08:32:17	512.28	881	Detector bias heater off
	09:03:45	543.75	821	Elevate to internal source (stow)
	09:19:45	559.75	862	WFOV BB heater on at temp. 1
	09:35:45	575.75	872	MFOV BB heater on at temp. 1

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
11/21/90	10:46:41	646.68	823	Elevate to nadir (Earth)

End preinternal calibration sequence.
Begin internal calibration sequence.

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
11/21/90	10:47:45	647.75	881	Detector bias heater off
	10:48:17	648.28	852	Solar port heaters off
	10:48:49	648.82	821	Elevate to internal source (stow)
	10:49:21	649.35	851	Solar port heaters on
	10:51:29	651.48	882	Detector bias heater on at level 1
	10:55:13	655.22	892	SWICS on at level 3
	10:58:25	658.42	881	Detector bias heater off
	11:02:09	662.15	862	WFOV BB heater on at temp. 1
	11:02:41	662.68	872	MFOV BB heater on at temp. 1
	11:03:45	663.75	891	SWICS off
	11:17:05	677.08	883	Detector bias heater on at level 2
	11:20:49	680.82	893	SWICS on at level 2
	11:24:01	684.02	881	Detector bias heater off
	11:27:45	687.75	863	WFOV BB heater on at temp. 2
	11:28:17	688.28	873	MFOV BB heater on at temp. 2
	11:29:21	689.35	891	SWICS off
	11:42:41	702.68	884	Detector bias heater on at level 3
	11:46:25	706.42	894	SWICS on at level 1
	11:48:33	708.55	881	Detector bias heater off
	11:51:13	711.22	852	Solar port heaters off
	11:52:17	712.28	861	WFOV BB heater off
	11:52:49	712.82	871	MFOV BB heater off
	11:53:21	713.35	851	Solar port heaters on
	11:53:53	713.88	891	SWICS off

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
End internal calibration sequence.				
11/21/90	12:04:33	724.55	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
11/21/90	12:08:49	728.82	419	Address azimuth position A
	12:09:21	729.35	208	Data command, high byte
	12:09:53	729.88	138	Data command, low byte
End azimuth angle load commands (A = 157.80°). Begin solar calibration sequence.				
11/21/90	12:10:57	730.95	822	Elevate to solar ports (Sun)
	12:42:57	762.95	814	Azimuth to position A
	12:44:01	764.02	883	Detector bias heater on at level 2
	13:00:01	780.02	831	SMA shutter cycle on
	13:35:13	815.22	832	SMA shutter cycle off
	13:35:45	815.75	881	Detector bias heater off
	13:54:57	834.95	882	Detector bias heater on at level 1
	13:57:37	837.62	881	Detector bias heater off
	13:58:09	838.15	883	Detector bias heater on at level 2
	14:00:49	840.82	881	Detector bias heater off
	14:01:21	841.35	884	Detector bias heater on at level 3
	14:04:01	844.02	881	Detector bias heater off
	14:04:33	844.55	852	Solar port heaters off
	14:20:33	860.55	851	Solar port heaters on
	14:21:05	861.08	821	Elevate to internal source (stow)
	15:25:05	925.08	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
11/21/90	16:49:21	1009.35	882	Detector bias heater on at level 1

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Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
11/21/90	16:52:01	1012.02	881	Detector bias heater off
	16:52:33	1012.55	883	Detector bias heater on at level 2
	16:55:13	1015.22	881	Detector bias heater off
	16:55:45	1015.75	884	Detector bias heater on at level 3
	16:58:25	1018.42	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
11/28/90	07:22:25	442.42	882	Detector bias heater on at level 1
	07:25:05	445.08	881	Detector bias heater off
	07:25:37	445.62	883	Detector bias heater on at level 2
	07:28:17	448.28	881	Detector bias heater off
	07:28:49	448.82	884	Detector bias heater on at level 3
	07:31:29	451.48	881	Detector bias heater off
	08:02:57	482.95	821	Elevate to internal source (stow)
	08:18:57	498.95	862	WFOV BB heater on at temp. 1
	08:34:57	514.95	872	MFOV BB heater on at temp. 1
	09:45:53	585.88	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
11/28/90	09:46:57	586.95	881	Detector bias heater off
	09:47:29	587.48	852	Solar port heaters off
	09:48:01	588.02	821	Elevate to internal source (stow)
	09:48:33	588.55	851	Solar port heaters on
	09:50:41	590.68	882	Detector bias heater on at level 1
	09:54:25	594.42	892	SWICS on at level 3
	09:57:37	597.62	881	Detector bias heater off
	10:01:21	601.35	862	WFOV BB heater on at temp. 1

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
11/28/90	10:01:53	601.88	872	MFOV BB heater on at temp. 1
	10:02:57	602.95	891	SWICS off
	10:16:17	616.28	883	Detector bias heater on at level 2
	10:20:01	620.02	893	SWICS on at level 2
	10:23:13	623.22	881	Detector bias heater off
	10:26:57	626.95	863	WFOV BB heater on at temp. 2
	10:27:29	627.48	873	MFOV BB heater on at temp. 2
	10:28:33	628.55	891	SWICS off
	10:41:53	641.88	884	Detector bias heater on at level 3
	10:45:37	645.62	894	SWICS on at level 1
	10:47:45	647.75	881	Detector bias heater off
	10:50:25	650.42	852	Solar port heaters off
	10:51:29	651.48	861	WFOV BB heater off
	10:52:01	652.02	871	MFOV BB heater off
	10:52:33	652.55	851	Solar port heaters on
	10:53:05	653.08	891	SWICS off
End internal calibration sequence.				
11/28/90	11:03:45	663.75	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
11/28/90	11:08:01	668.02	419	Address azimuth position A
	11:08:33	668.55	208	Data command, high byte
	11:09:05	669.08	137	Data command, low byte
End azimuth angle load commands (A = 157.73°). Begin solar calibration sequence.				
11/28/90	11:10:09	670.15	822	Elevate to solar ports (Sun)
	11:42:09	702.15	814	Azimuth to position A
	11:43:13	703.22	883	Detector bias heater on at level 2

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
11/28/90	11:59:13	719.22	831	SMA shutter cycle on
	12:34:25	754.42	832	SMA shutter cycle off
	12:34:57	754.95	881	Detector bias heater off
	12:54:09	774.15	882	Detector bias heater on at level 1
	12:56:49	776.82	881	Detector bias heater off
	12:57:21	777.35	883	Detector bias heater on at level 2
	13:00:01	780.02	881	Detector bias heater off
	13:00:33	780.55	884	Detector bias heater on at level 3
	13:03:13	783.22	881	Detector bias heater off
	13:03:45	783.75	852	Solar port heaters off
	13:19:45	799.75	851	Solar port heaters on
	13:20:17	800.28	821	Elevate to internal source (stow)
	14:24:17	864.28	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
11/28/90	15:48:33	948.55	882	Detector bias heater on at level 1
	15:51:13	951.22	881	Detector bias heater off
	15:51:45	951.75	883	Detector bias heater on at level 2
	15:54:25	954.42	881	Detector bias heater off
	15:54:57	954.95	884	Detector bias heater on at level 3
	15:57:37	957.62	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
12/05/90	08:02:25	482.42	882	Detector bias heater on at level 1
	08:05:05	485.08	881	Detector bias heater off
	08:05:37	485.62	883	Detector bias heater on at level 2
	08:08:17	488.28	881	Detector bias heater off

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
12/05/90	08:08:49	488.82	884	Detector bias heater on at level 3
	08:11:29	491.48	881	Detector bias heater off
	08:42:57	522.95	821	Elevate to internal source (stow)
	08:58:57	538.95	862	WFOV BB heater on at temp. 1
	09:14:57	554.95	872	MFOV BB heater on at temp. 1
	10:25:53	625.88	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
12/05/90	10:26:57	626.95	881	Detector bias heater off
	10:27:29	627.48	852	Solar port heaters off
	10:28:01	628.02	821	Elevate to internal source (stow)
	10:28:33	628.55	851	Solar port heaters on
	10:30:41	630.68	882	Detector bias heater on at level 1
	10:34:25	634.42	892	SWICS on at level 3
	10:37:37	637.62	881	Detector bias heater off
	10:41:21	641.35	862	WFOV BB heater on at temp. 1
	10:41:53	641.88	872	MFOV BB heater on at temp. 1
	10:42:57	642.95	891	SWICS off
	10:56:17	656.28	883	Detector bias heater on at level 2
	11:00:01	660.02	893	SWICS on at level 2
	11:03:13	663.22	881	Detector bias heater off
	11:06:57	666.95	863	WFOV BB heater on at temp. 2
	11:07:29	667.48	873	MFOV BB heater on at temp. 2
	11:08:33	668.55	891	SWICS off
	11:21:53	681.88	884	Detector bias heater on at level 3
	11:25:37	685.62	894	SWICS on at level 1
	11:27:45	687.75	881	Detector bias heater off

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Table 8. Continued

Date	Universal time hr:min:sec	Minutes of day	Hex command	Event description
12/05/90	11:30:25	690.42	852	Solar port heaters off
	11:31:29	691.48	861	WFOV BB heater off
	11:32:01	692.02	871	MFOV BB heater off
	11:32:33	692.55	851	Solar port heaters on
	11:33:05	693.08	891	SWICS off
End internal calibration sequence.				
12/05/90	11:43:45	703.75	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
12/05/90	11:48:01	708.02	419	Address azimuth position A
	11:48:33	708.55	208	Data command, high byte
	11:49:05	709.08	138	Data command, low byte
End azimuth angle load commands (A = 157.80°). Begin solar calibration sequence.				
12/05/90	11:50:09	710.15	822	Elevate to solar ports (Sun)
	12:22:09	742.15	814	Azimuth to position A
	12:23:13	743.22	883	Detector bias heater on at level 2
	12:39:13	759.22	831	SMA shutter cycle on
	13:14:25	794.42	832	SMA shutter cycle off
	13:14:57	794.95	881	Detector bias heater off
	13:34:09	814.15	882	Detector bias heater on at level 1
	13:36:49	816.82	881	Detector bias heater off
	13:37:21	817.35	883	Detector bias heater on at level 2
	13:40:01	820.02	881	Detector bias heater off
	13:40:33	820.55	884	Detector bias heater on at level 3
	13:43:13	823.22	881	Detector bias heater off
	13:43:45	823.75	852	Solar port heaters off
	13:59:45	839.75	851	Solar port heaters on

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
12/05/90	14:00:17	840.28	821	Elevate to internal source (stow)
	15:04:17	904.28	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
12/05/90	16:28:33	988.55	882	Detector bias heater on at level 1
	16:31:13	991.22	881	Detector bias heater off
	16:31:45	991.75	883	Detector bias heater on at level 2
	16:34:25	994.42	881	Detector bias heater off
	16:34:57	994.95	884	Detector bias heater on at level 3
	16:37:37	997.62	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
12/12/90	08:42:57	522.95	882	Detector bias heater on at level 1
	08:45:37	525.62	881	Detector bias heater off
	08:46:09	526.15	883	Detector bias heater on at level 2
	08:48:49	528.82	881	Detector bias heater off
	08:49:21	529.35	884	Detector bias heater on at level 3
	08:52:01	532.02	881	Detector bias heater off
	09:23:29	563.48	821	Elevate to internal source (stow)
	09:39:29	579.48	862	WFOV BB heater on at temp. 1
	09:55:29	595.48	872	MFOV BB heater on at temp. 1
	11:06:25	666.42	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
12/12/90	11:07:29	667.48	881	Detector bias heater off
	11:08:01	668.02	852	Solar port heaters off
	11:08:33	668.55	821	Elevate to internal source (stow)

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
12/12/90	11:09:05	669.08	851	Solar port heaters on
	11:11:13	671.22	882	Detector bias heater on at level 1
	11:14:57	674.95	892	SWICS on at level 3
	11:18:09	678.15	881	Detector bias heater off
	11:21:53	681.88	862	WFOV BB heater on at temp. 1
	11:22:25	682.42	872	MFOV BB heater on at temp. 1
	11:23:29	683.48	891	SWICS off
	11:36:49	696.82	883	Detector bias heater on at level 2
	11:40:33	700.55	893	SWICS on at level 2
	11:43:45	703.75	881	Detector bias heater off
	11:47:29	707.48	863	WFOV BB heater on at temp. 2
	11:48:01	708.02	873	MFOV BB heater on at temp. 2
	11:49:05	709.08	891	SWICS off
	12:02:25	722.42	884	Detector bias heater on at level 3
	12:06:09	726.15	894	SWICS on at level 1
	12:08:17	728.28	881	Detector bias heater off
	12:10:57	730.95	852	Solar port heaters off
	12:12:01	732.02	861	WFOV BB heater off
	12:12:33	732.55	871	MFOV BB heater off
	12:13:05	733.08	851	Solar port heaters on
	12:13:37	733.62	891	SWICS off
End internal calibration sequence.				
12/12/90	12:24:17	744.28	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
12/12/90	12:28:33	748.55	419	Address azimuth position A
	12:29:05	749.08	208	Data command, high byte

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
12/12/90	12:29:37	749.62	13C	Data command, low byte
End azimuth angle load commands (A = 158.10°). Begin solar calibration sequence.				
12/12/90	12:30:41	750.68	822	Elevate to solar ports (Sun)
	13:02:41	782.68	814	Azimuth to position A
	13:03:45	783.75	883	Detector bias heater on at level 2
	13:19:45	799.75	831	SMA shutter cycle on
	13:54:57	834.95	832	SMA shutter cycle off
	13:55:29	835.48	881	Detector bias heater off
	14:14:41	854.68	882	Detector bias heater on at level 1
	14:17:21	857.35	881	Detector bias heater off
	14:17:53	857.88	883	Detector bias heater on at level 2
	14:20:33	860.55	881	Detector bias heater off
	14:21:05	861.08	884	Detector bias heater on at level 3
	14:23:45	863.75	881	Detector bias heater off
	14:24:17	864.28	852	Solar port heaters off
	14:40:17	880.28	851	Solar port heaters on
	14:40:49	880.82	821	Elevate to internal source (stow)
	15:44:49	944.82	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
12/12/90	17:09:05	1029.08	882	Detector bias heater on at level 1
	17:11:45	1031.75	881	Detector bias heater off
	17:12:17	1032.28	883	Detector bias heater on at level 2
	17:14:57	1034.95	881	Detector bias heater off
	17:15:29	1035.48	884	Detector bias heater on at level 3
	17:18:09	1038.15	881	Detector bias heater off

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
End postcalibration sequence. Begin preinternal calibration sequence.			
12/19/90	07:41:37	461.62	882	Detector bias heater on at level 1
	07:44:17	464.28	881	Detector bias heater off
	07:44:49	464.82	883	Detector bias heater on at level 2
	07:47:29	467.48	881	Detector bias heater off
	07:48:01	468.02	884	Detector bias heater on at level 3
	07:50:41	470.68	881	Detector bias heater off
	08:22:09	502.15	821	Elevate to internal source (stow)
	08:38:09	518.15	862	WFOV BB heater on at temp. 1
	08:54:09	534.15	872	MFOV BB heater on at temp. 1
	10:05:05	605.08	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.			
12/19/90	10:06:09	606.15	881	Detector bias heater off
	10:06:41	606.68	852	Solar port heaters off
	10:07:13	607.22	821	Elevate to internal source (stow)
	10:07:45	607.75	851	Solar port heaters on
	10:09:53	609.88	882	Detector bias heater on at level 1
	10:13:37	613.62	892	SWICS on at level 3
	10:16:49	616.82	881	Detector bias heater off
	10:20:33	620.55	862	WFOV BB heater on at temp. 1
	10:21:05	621.08	872	MFOV BB heater on at temp. 1
	10:22:09	622.15	891	SWICS off
	10:35:29	635.48	883	Detector bias heater on at level 2
	10:39:13	639.22	893	SWICS on at level 2
	10:42:25	642.42	881	Detector bias heater off

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
12/19/90	10:46:09	646.15	863	WFOV BB heater on at temp. 2
	10:46:41	646.68	873	MFOV BB heater on at temp. 2
	10:47:45	647.75	891	SWICS off
	11:01:05	661.08	884	Detector bias heater on at level 3
	11:04:49	664.82	894	SWICS on at level 1
	11:06:57	666.95	881	Detector bias heater off
	11:09:37	669.62	852	Solar port heaters off
	11:10:41	670.68	861	WFOV BB heater off
	11:11:13	671.22	871	MFOV BB heater off
	11:11:45	671.75	851	Solar port heaters on
	11:12:17	672.28	891	SWICS off
End internal calibration sequence.				
12/19/90	11:22:57	682.95	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
12/19/90	11:27:13	687.22	419	Address azimuth position A
	11:27:45	687.75	208	Data command, high byte
	11:28:17	688.28	144	Data command, low byte
End azimuth angle load commands (A = 158.70°). Begin solar calibration sequence.				
12/19/90	11:29:21	689.35	822	Elevate to solar ports (Sun)
	12:01:21	721.35	814	Azimuth to position A
	12:02:25	722.42	883	Detector bias heater on at level 2
	12:18:25	738.42	831	SMA shutter cycle on
	12:53:37	773.62	832	SMA shutter cycle off
	12:54:09	774.15	881	Detector bias heater off
	13:13:21	793.35	882	Detector bias heater on at level 1
	13:16:01	796.02	881	Detector bias heater off

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
12/19/90	13:16:33	796.55	883	Detector bias heater on at level 2
	13:19:13	799.22	881	Detector bias heater off
	13:19:45	799.75	884	Detector bias heater on at level 3
	13:22:25	802.42	881	Detector bias heater off
	13:22:57	802.95	852	Solar port heaters off
	13:38:57	818.95	851	Solar port heaters on
	13:39:29	819.48	821	Elevate to internal source (stow)
	14:43:29	883.48	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
12/19/90	16:07:45	967.75	882	Detector bias heater on at level 1
	16:10:25	970.42	881	Detector bias heater off
	16:10:57	970.95	883	Detector bias heater on at level 2
	16:13:37	973.62	881	Detector bias heater off
	16:14:09	974.15	884	Detector bias heater on at level 3
	16:16:49	976.82	881	Detector bias heater off
End postcalibration sequence. Begin preinternal calibration sequence.				
12/26/90	08:21:37	501.62	882	Detector bias heater on at level 1
	08:24:17	504.28	881	Detector bias heater off
	08:24:49	504.82	883	Detector bias heater on at level 2
	08:27:29	507.48	881	Detector bias heater off
	08:28:01	508.02	884	Detector bias heater on at level 3
	08:30:41	510.68	881	Detector bias heater off
	09:02:09	542.15	821	Elevate to internal source (stow)
	09:18:09	558.15	862	WFOV BB heater on at temp. 1
	09:34:09	574.15	872	MFOV BB heater on at temp. 1

Table 8. Continued

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
12/26/90	10:45:05	645.08	823	Elevate to nadir (Earth)
End preinternal calibration sequence. Begin internal calibration sequence.				
12/26/90	10:46:09	646.15	881	Detector bias heater off
	10:46:41	646.68	852	Solar port heaters off
	10:47:13	647.22	821	Elevate to internal source (stow)
	10:47:45	647.75	851	Solar port heaters on
	10:49:53	649.88	882	Detector bias heater on at level 1
	10:53:37	653.62	892	SWICS on at level 3
	10:56:49	656.82	881	Detector bias heater off
	11:00:33	660.55	862	WFOV BB heater on at temp. 1
	11:01:05	661.08	872	MFOV BB heater on at temp. 1
	11:02:09	662.15	891	SWICS off
	11:15:29	675.48	883	Detector bias heater on at level 2
	11:19:13	679.22	893	SWICS on at level 2
	11:22:25	682.42	881	Detector bias heater off
	11:26:09	686.15	863	WFOV BB heater on at temp. 2
	11:26:41	686.68	873	MFOV BB heater on at temp. 2
	11:27:45	687.75	891	SWICS off
	11:41:05	701.08	884	Detector bias heater on at level 3
	11:44:49	704.82	894	SWICS on at level 1
	11:46:57	706.95	881	Detector bias heater off
	11:49:37	709.62	852	Solar port heaters off
	11:50:41	710.68	861	WFOV BB heater off
	11:51:13	711.22	871	MFOV BB heater off
	11:51:45	711.75	851	Solar port heaters on
	11:52:17	712.28	891	SWICS off

Table 8. Continued

Date	Universal time		Hex command	Event description
	hr:min:sec	Minutes of day		
End internal calibration sequence.				
12/26/90	12:02:57	722.95	823	Elevate to nadir (Earth)
Begin azimuth angle load commands for solar calibration.				
12/26/90	12:07:13	727.22	419	Address azimuth position A
	12:07:45	727.75	208	Data command, high byte
	12:08:17	728.28	150	Data command, low byte
End azimuth angle load commands (A = 159.60°). Begin solar calibration sequence.				
12/26/90	12:09:21	729.35	822	Elevate to solar ports (Sun)
	12:41:21	761.35	814	Azimuth to position A
	12:42:25	762.42	883	Detector bias heater on at level 2
	12:58:25	778.42	831	SMA shutter cycle on
	13:33:37	813.62	832	SMA shutter cycle off
	13:34:09	814.15	881	Detector bias heater off
	13:53:21	833.35	882	Detector bias heater on at level 1
	13:56:01	836.02	881	Detector bias heater off
	13:56:33	836.55	883	Detector bias heater on at level 2
	13:59:13	839.22	881	Detector bias heater off
	13:59:45	839.75	884	Detector bias heater on at level 3
	14:02:25	842.42	881	Detector bias heater off
	14:02:57	842.95	852	Solar port heaters off
	14:18:57	858.95	851	Solar port heaters on
	14:19:29	859.48	821	Elevate to internal source (stow)
	15:23:29	923.48	823	Elevate to nadir (Earth)
End solar calibration sequence. Begin postcalibration sequence.				
12/26/90	16:47:45	1007.75	882	Detector bias heater on at level 1

Table 8. Concluded

| Date | Universal time | | Hex command | Event description |
	hr:min:sec	Minutes of day		
12/26/90	16:50:25	1010.42	881	Detector bias heater off
	16:50:57	1010.95	883	Detector bias heater on at level 2
	16:53:37	1013.62	881	Detector bias heater off
	16:54:09	1014.15	884	Detector bias heater on at level 3
	16:56:49	1016.82	881	Detector bias heater off
End postcalibration sequence.				

Table 9. Characteristics of ERBS, NOAA 9, and NOAA 10 Orbits

(m) ERBS spacecraft (January 1985 through December 1990)

Parameter	Value at beginning of year—					
	1985	1986	1987	1988	1989	1990
Semimajor axis, km	6981	6981	6981	6978	6986	6979
Eccentricity	0.0018	0.0014	0.0009	0.0015	0.0016	0.0019
Inclination, deg.	57.00	56.99	57.01	56.99	57.02	57.01
Period, min.	96.75	96.75	96.75	96.68	96.84	96.70
Mean altitude, km	611.28	611.01	610.88	611.17	609.59	604.42
Minimum altitude, km	599.65	600.37	602.17	599.64	599.70	592.83
Maximum altitude, km.	630.08	625.67	623.86	628.26	629.12	621.50
Mean anomaly rate, deg/min	3.72	3.72	3.72	3.73	3.72	3.72
Argument of perigee rate of change, deg/day	1.75	1.76	1.75	1.76	1.75	1.75
Rotation rate of right ascension of ascending node, deg/day	−3.95	−3.97	−3.95	−3.96	−3.94	−3.96
Local time of ascending node, hr:min of day	23:17	23:25	23:40	22:40	22:07	21:43

(n) NOAA 9 spacecraft (January 1985 through December 1990)

Parameter	Value at beginning of year—					
	1985	1986	1987	1988	1989	1990
Semimajor axis, km	7230	7230	7230	7235	7227	7220
Eccentricity	0.00198	0.00117	0.00109	0.00258	0.00310	0.00371
Inclination, deg.	98.93	98.98	99.03	99.08	99.13	99.16
Period, min.	102.00	101.97	101.96	102.07	101.90	101.75
Mean altitude, km	866.63	866.38	866.22	865.89	865.29	863.30
Minimum altitude, km	847.95	855.73	848.84	844.71	846.97	844.95
Maximum altitude, km.	879.01	878.71	876.47	886.37	892.59	890.47
Mean anomaly rate, deg/min	3.53	3.53	3.53	3.53	3.53	3.53
Argument of perigee rate of change, deg/day.	−2.83	−2.82	−2.82	−2.81	−2.81	−2.82
Rotation rate of right ascension of ascending node, deg/day	1.000	1.003	1.010	1.011	1.021	1.028
Local time of ascending node, hr:min of day	14:20	14:36	15:13	15:35	16:17	17:06

Table 9. Concluded

(o) NOAA 10 spacecraft (November 1, 1986, and January 1987 through December 1990)

Parameter	Value at beginning of year—				
	Nov. 1, 1986[a]	1987	1988	1989	1990
Semimajor axis, km	7192	7192	7184	7193	7186
Eccentricity	0.00212	0.00186	0.00174	0.00255	0.00141
Inclination, deg.	98.74	98.74	98.70	98.65	98.62
Period, min	101.16	101.17	100.99	101.17	101.04
Mean altitude, km	829.16	828.61	828.65	827.75	825.68
Minimum altitude, km	809.22	811.02	808.70	808.14	806.48
Maximum altitude, km	852.47	842.10	846.18	848.83	849.51
Mean anomaly rate, deg/min	3.56	3.55	3.56	3.55	3.56
Argument of perigee rate of change, deg/day	−2.89	−2.87	−2.91	−2.90	−2.91
Rotation rate of right ascension of ascending node, deg/day	0.996	0.988	0.994	0.984	0.984
Local time of ascending node, hr:min of day	07:31	07:32	07:37	07:36	07:29

[a]NOAA 10 spacecraft not launched until September 17, 1986. Nonscanner instrument became operational October 19, 1986.

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Table 10. Edit Limits for Key Nonscanner Instrument Housekeeping Measurements

[For explanation of abbreviations, see "Nomenclature"]

Telemetry subsystem edit limits						
Measurement	Low		High		Rate	
ERBS spacecraft						
HS temp. of all Earth-viewing detectors	33.45	°C	34.05	°C	0.005	°C/sec
HS temp. of solar monitor detector	0.0		30.0		0.003125	
AP temp. of all Earth-viewing detectors	33.0		34.2		0.003125	
AP temp. of solar monitor detector	0.0		30.0		0.03125	
FOVL temp. of all Earth-viewing detectors	0.0		35.0		0.025	
WFOV BB temp.	10.0		30.0		0.00625	
MFOV BB temp.	10.0		30.0		0.00625	
Slice 3 temp.	0.0		40.0		0.0625	
NOAA 9 spacecraft						
HS temp. of all Earth-viewing detectors	33.5	°C	33.7	°C	0.005	°C/sec
HS temp. of solar monitor detector	0.0		30.0		0.003125	
AP temp. of all Earth-viewing detectors	33.0		34.0		0.003125	
AP temp. of solar monitor detector	0.0		30.0		0.003125	
FOVL temp. of all Earth-viewing detectors	0.0		30.0		0.025	
WFOV BB temp.	10.0		30.0		0.00625	
MFOV BB temp.	10.0		30.0		0.00625	
Slice 3 temp.	0.0		40.0		0.0625	
NOAA 10 spacecraft						
HS temp. of all Earth-viewing detectors	33.5	°C	33.7	°C	0.005	°C/sec
HS temp. of solar monitor detector	0.0		30.0		0.003125	
AP temp. of WFOV TOT	32.2		33.2		0.003125	
AP temp. of WFOV SW, MFOV TOT, MFOV SW	33.0		34.0		0.003125	
AP temp. of solar monitor detector	0.0		30.0		0.003125	
FOVL temp. of MFOV SW	0.0		31.0		0.025	
FOVL temp. of WFOV TOT, WFOV SW, MFOV TOT	0.0		30.0		0.025	
WFOV BB temp.	10.0		30.0		0.00625	
MFOV BB temp.	10.0		30.0		0.00625	
Slice 3 temp.	0.0		40.0		0.0625	

Table 11. Modified Calibration Sequence on NOAA 9 Spacecraft

Step	Elapsed UT hr:min:sec	Hex command	Event description
1	00:00:00	821	Elevate to internal source (stow)
2	00:14:56	862	WFOV BB heater on at temp. 1
3	00:29:52	872	MFOV BB heater on at temp. 1
4	01:49:20	8A1	Begin internal calibration
5	01:49:52	881	Detector bias heater off
6	01:50:24	852	Solar port heaters off
7	01:50:56	821	Elevate to internal source (stow)
8	01:51:28	851	Solar port heaters on
9	01:53:36	882	Detector bias heater on at level 1
10	01:55:44	892	SWICS on at level 3
11	01:58:56	881	Detector bias heater off
12	01:02:40	862	WFOV BB heater on at temp. 1
13	01:03:12	872	MFOV BB heater on at temp. 1
14	01:04:16	891	SWICS off
15	02:17:36	883	Detector bias heater on at level 2
16	02:19:44	893	SWICS on at level 2
17	02:22:56	881	Detector bias heater off
18	02:26:40	863	WFOV BB heater on at temp. 2
19	02:27:12	873	MFOV BB heater on at temp. 2
20	02:28:16	891	SWICS off
21	02:41:36	884	Detector bias heater on at level 3
22	02:43:44	894	SWICS on at level 1
23	02:45:52	881	Detector bias heater off
24	02:48:32	852	Solar port heaters off
25	02:49:36	861	WFOV BB heater off
26	02:50:08	871	MFOV BB heater off
27	02:50:40	851	Solar port heaters on
28	02:51:12	891	SWICS off
29	02:59:12	823	Elevate to nadir (Earth)
30	03:08:48	822	Elevate to solar ports (Sun)
31	03:10:24	883	Detector bias heater on at level 2
32	03:12:00	831	SMA shutter cycle on
33	05:12:00	832	SMA shutter cycle off
34	05:13:36	881	Detector bias heater off
35	05:15:12	823	Elevate to nadir (Earth)
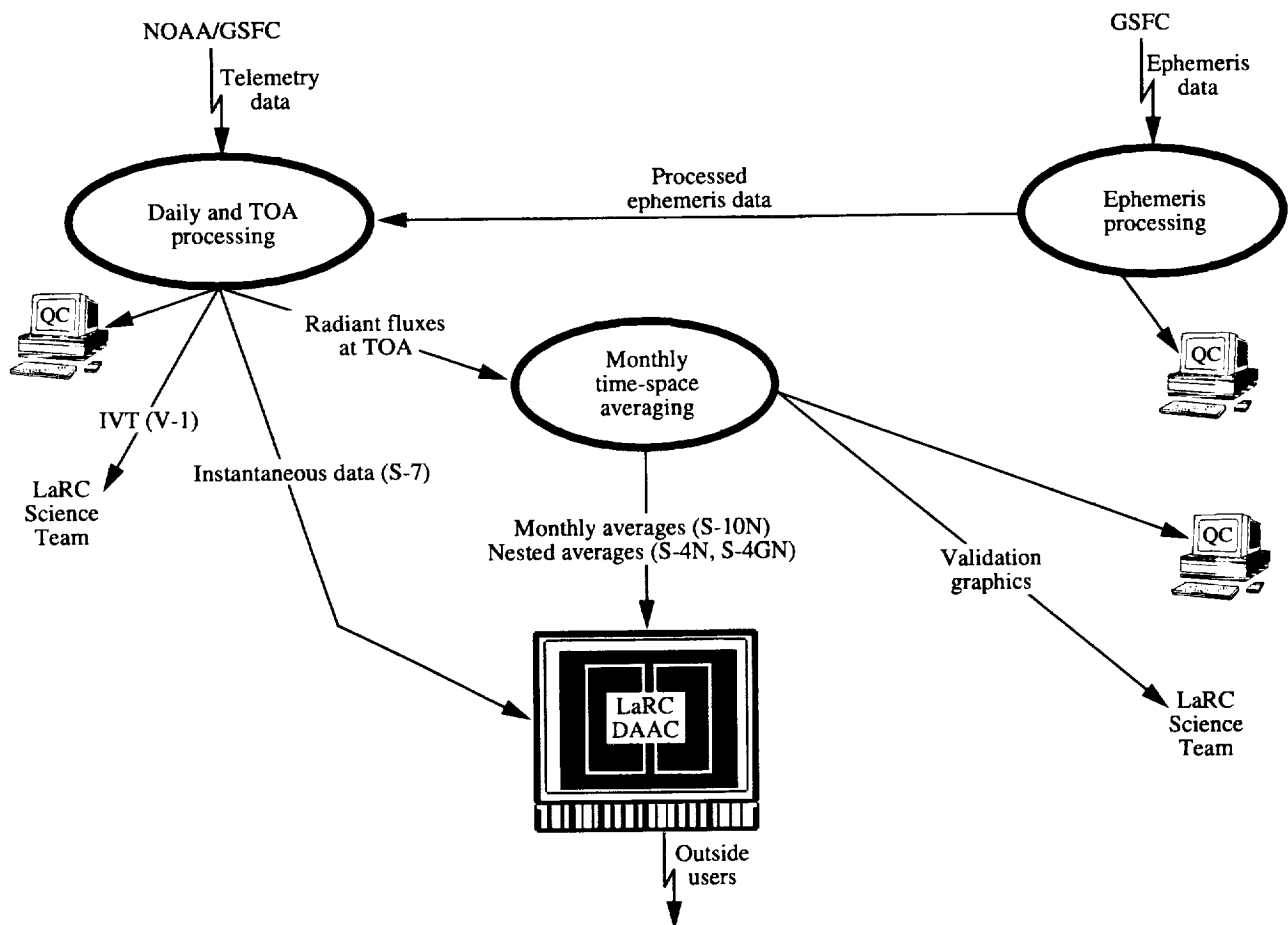
Figure 1. ERBE data processing overview.
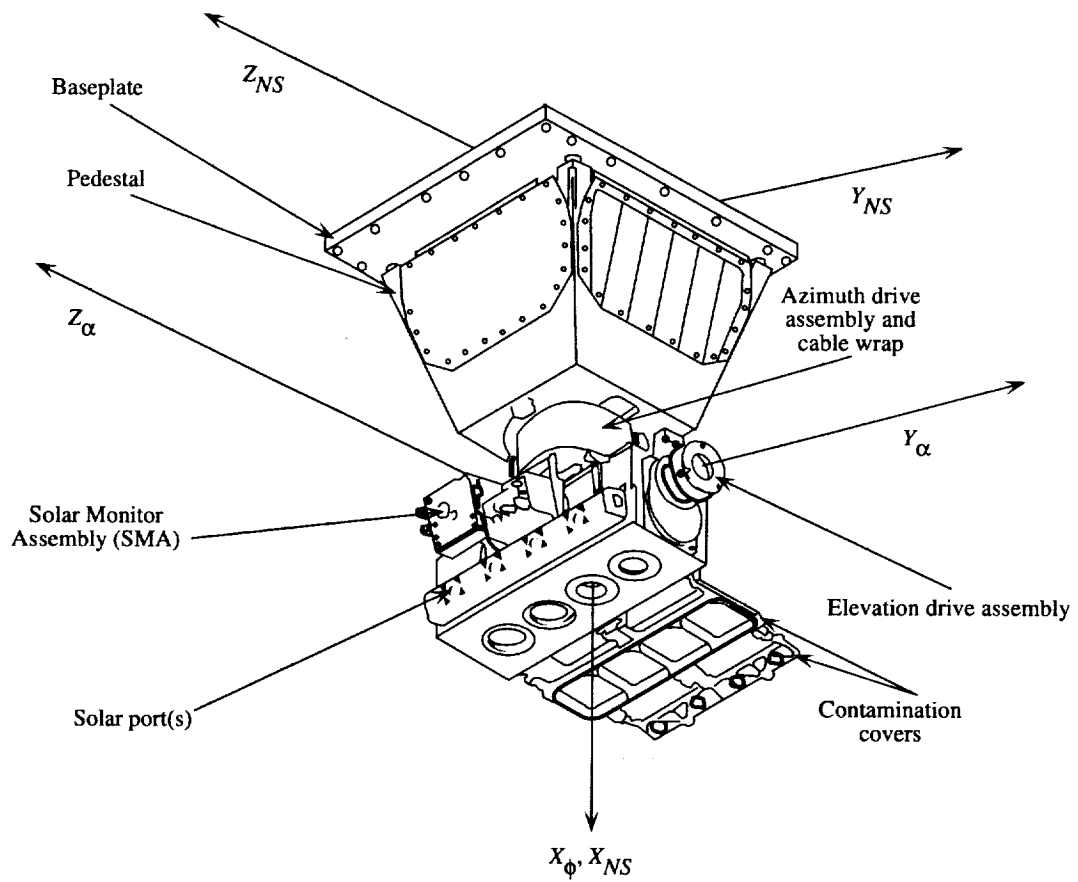
Figure 2. Diagram of ERBE nonscanner instrument illustrating coordinate axes.

(a) ERBS spacecraft.

Key

E	ERBS
N	NOAA spacecraft
NS	Nonscanner instrument
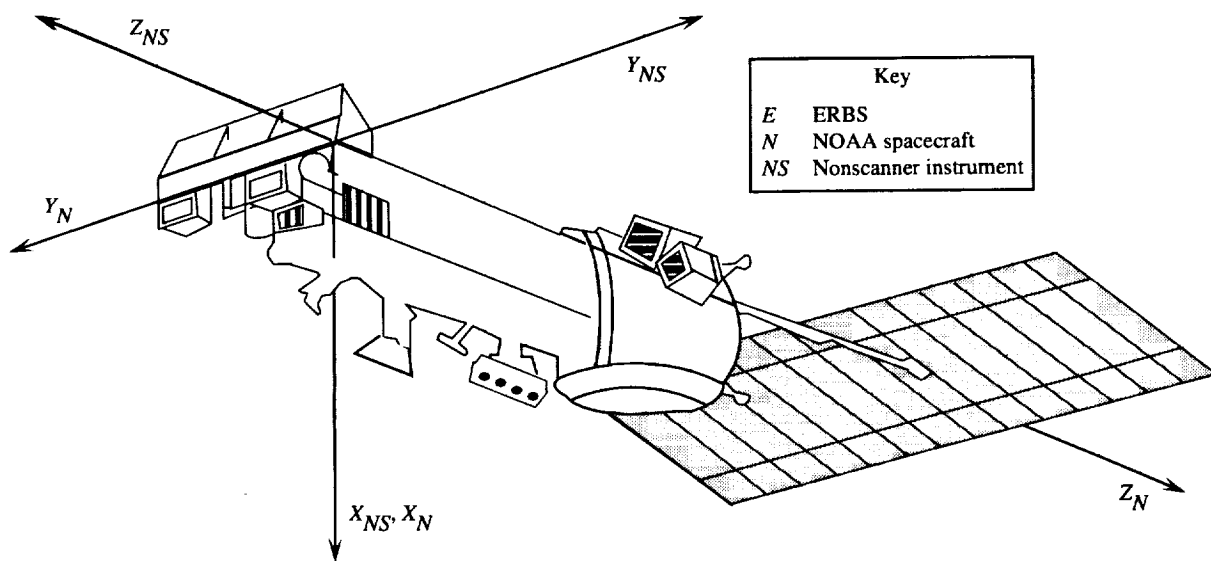
(b) NOAA spacecraft.

Figure 3. Spacecraft coordinate systems and alignment of axes with instrument axes.
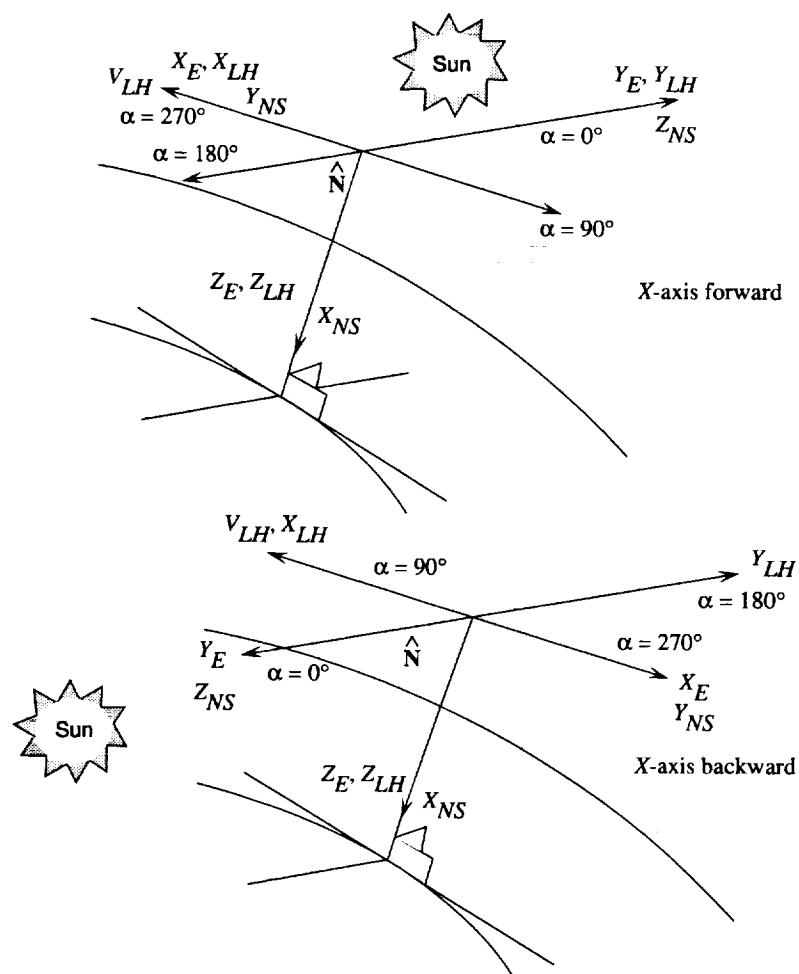
(a) ERBS spacecraft.
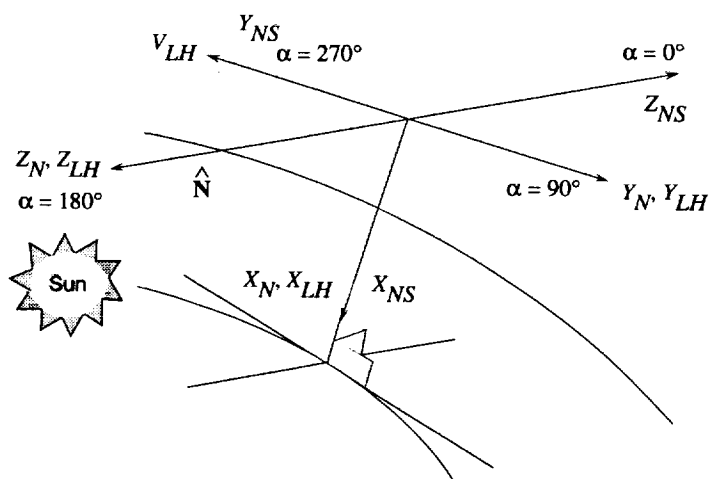
(b) NOAA spacecraft.

Figure 4. Alignment between spacecraft and their local horizon coordinates.
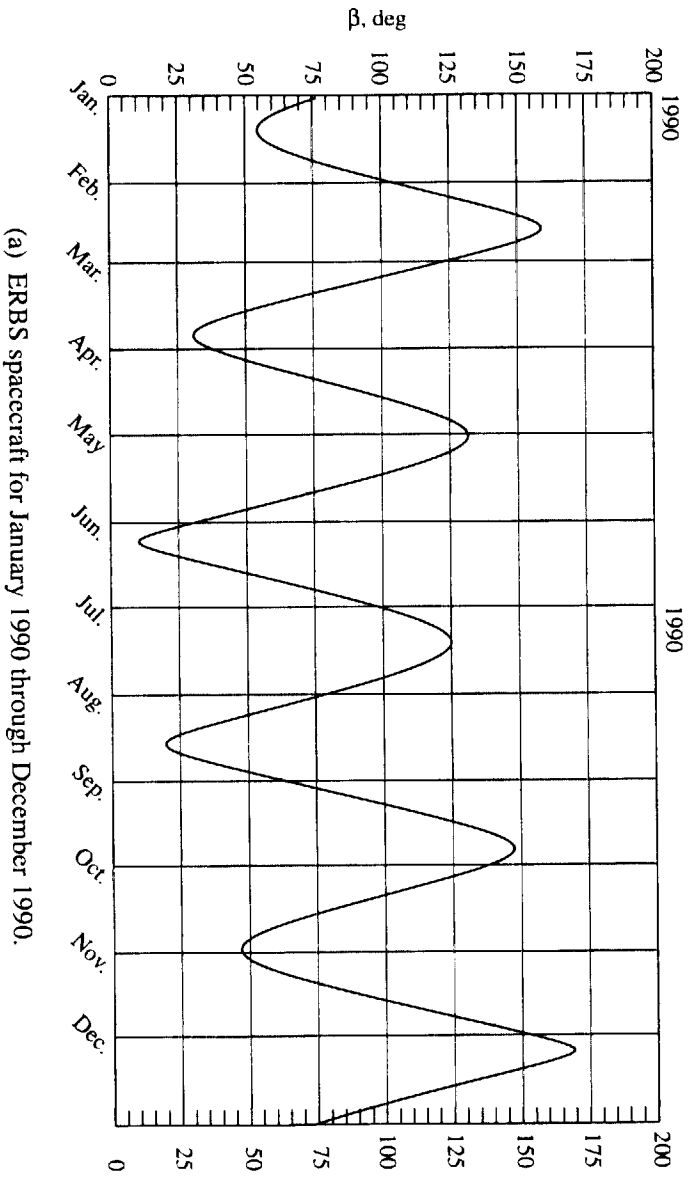
(a) ERBS spacecraft for January 1990 through December 1990.
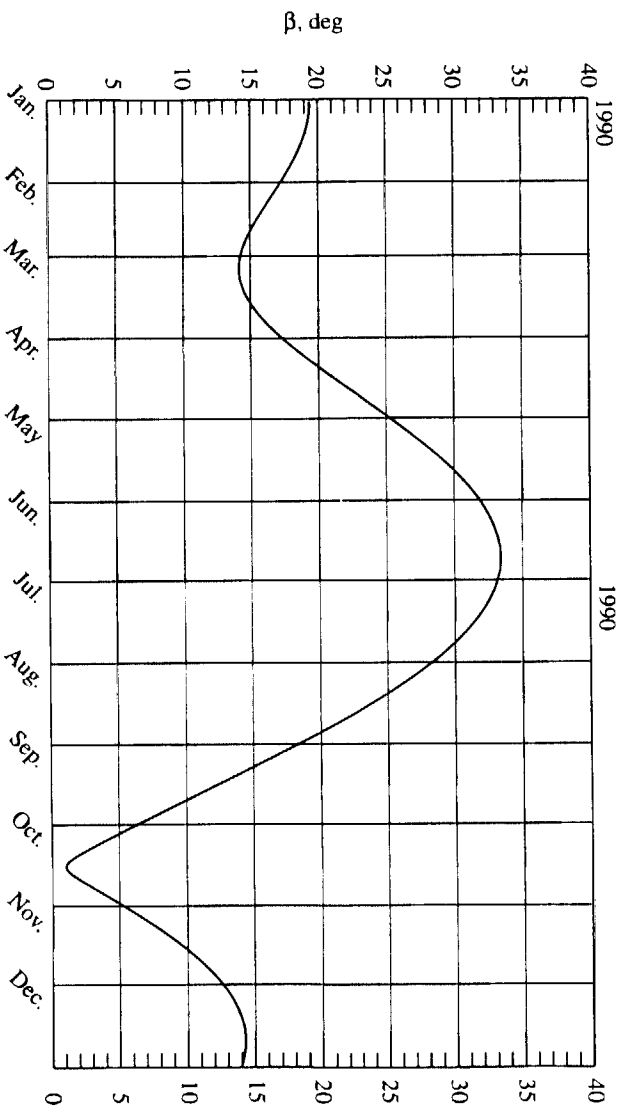
(b) NOAA 9 spacecraft for January 1990 through December 1990.

Figure 5. Beta (β) angles for ERBS, NOAA 9, and NOAA 10 spacecraft orbits.

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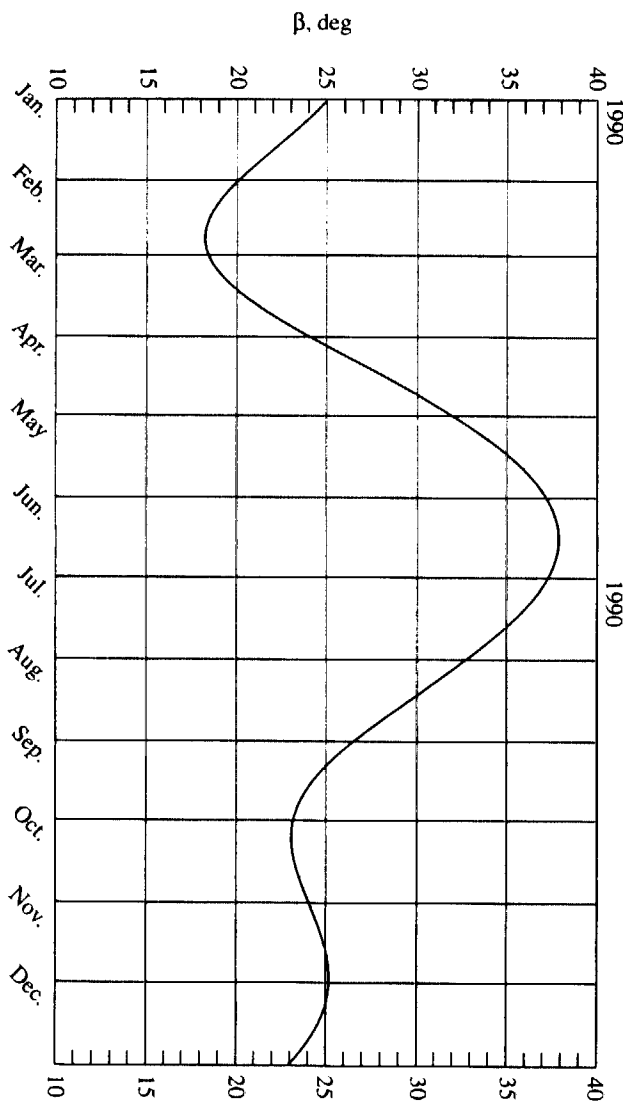
(c) NOAA 10 spacecraft for January 1990 through December 1990.

Figure 5. Concluded.
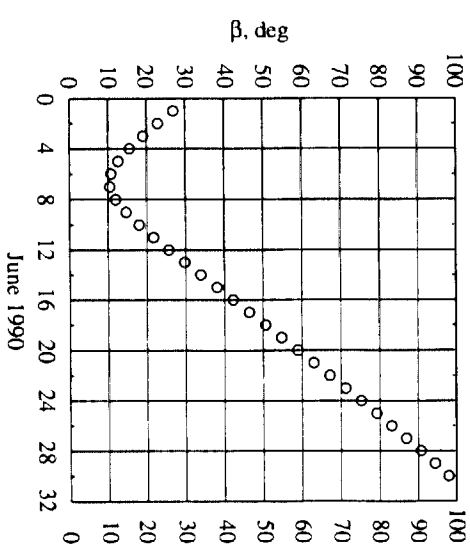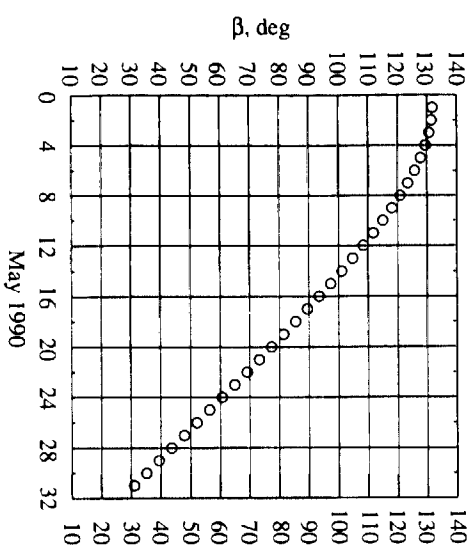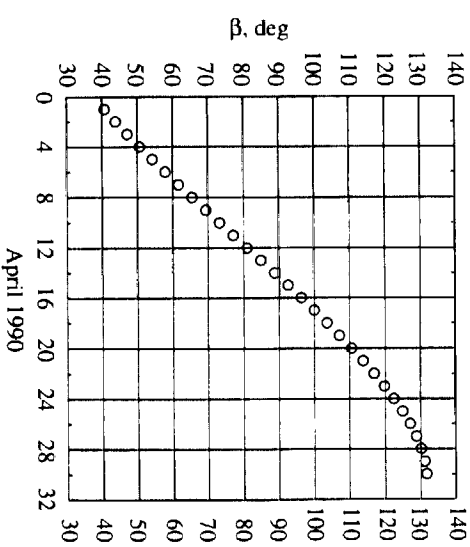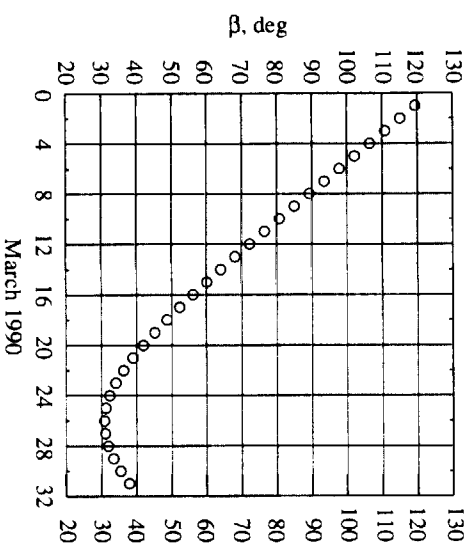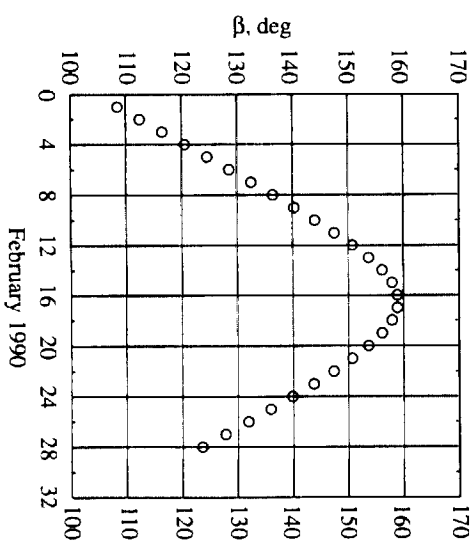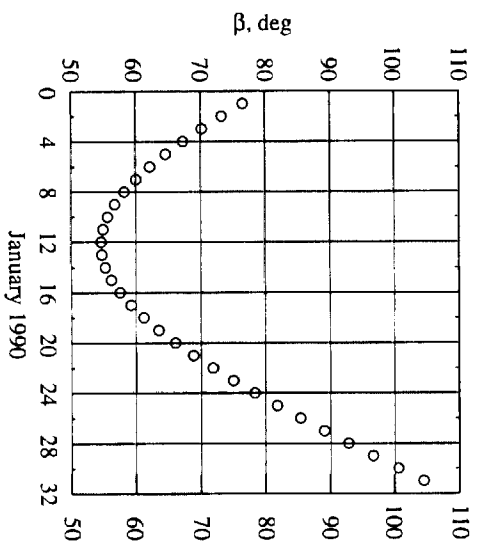
Figure 6. Monthly β plots for ERBS orbits from January 1990 through December 1990.

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Figure 6. Concluded.

β, deg

January 1990

β, deg

February 1990

β, deg

March 1990

β, deg

April 1990

β, deg

May 1990

β, deg

June 1990
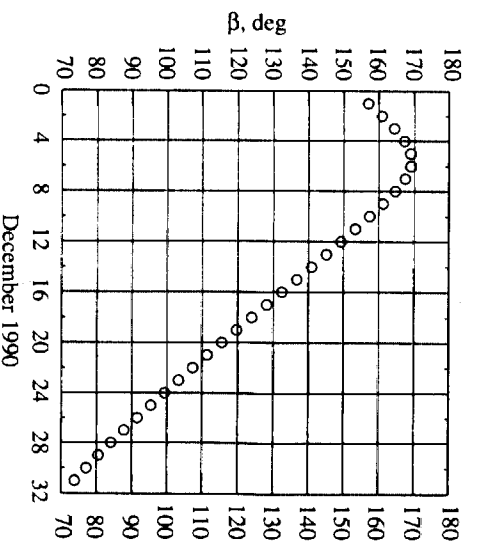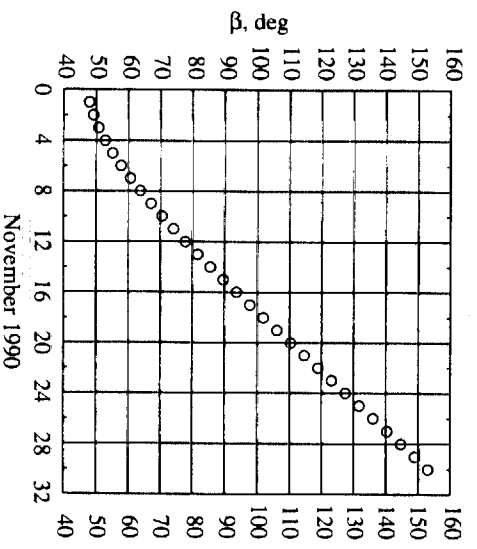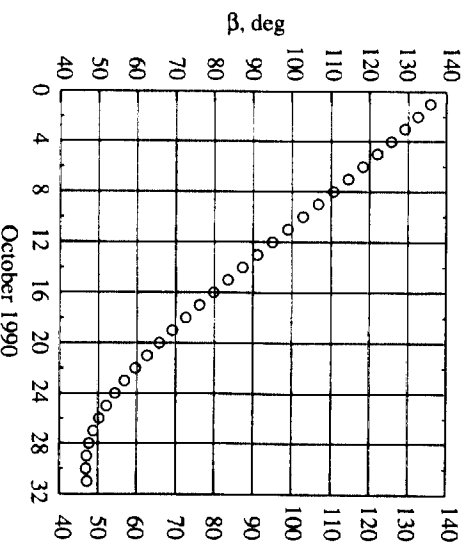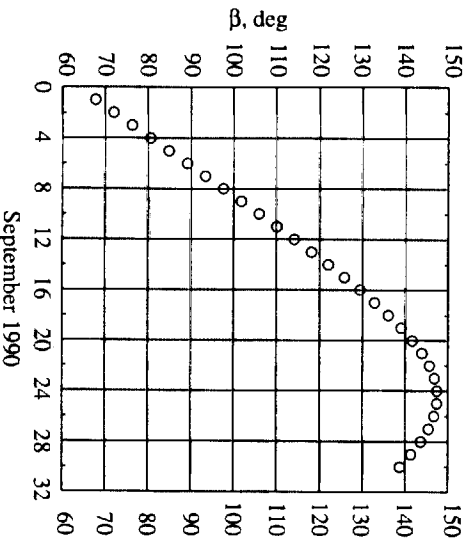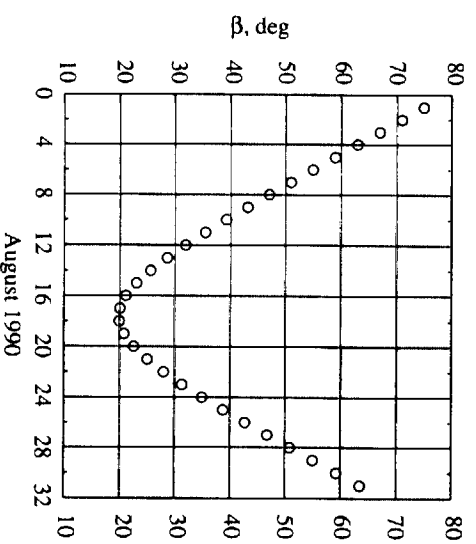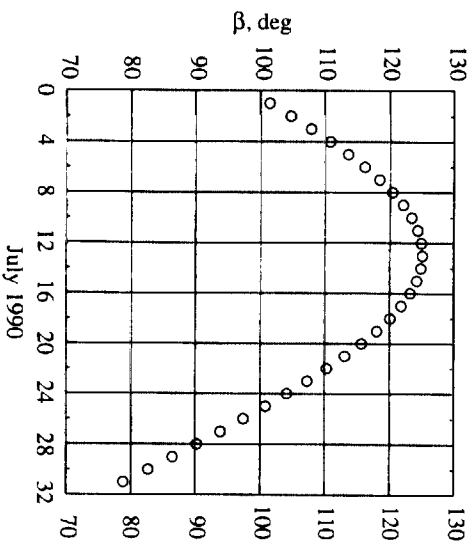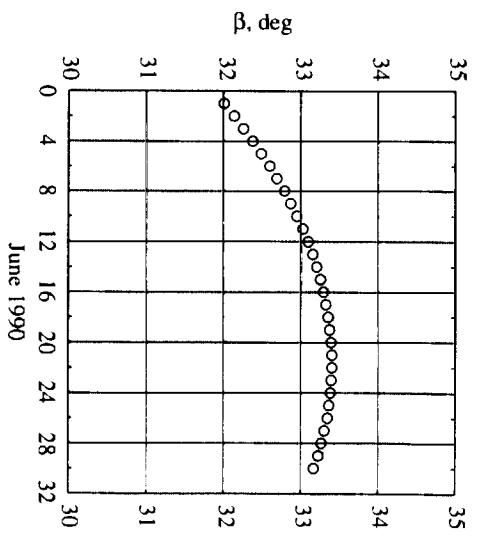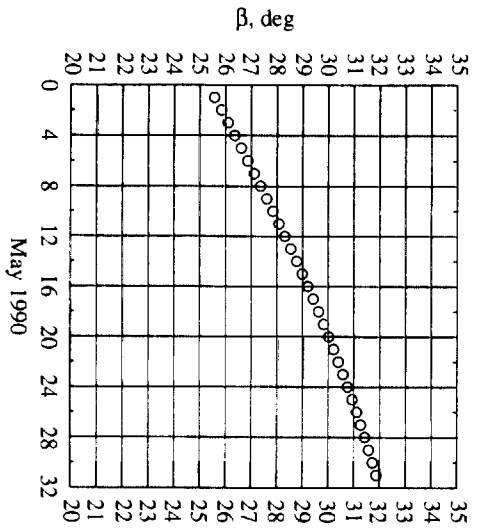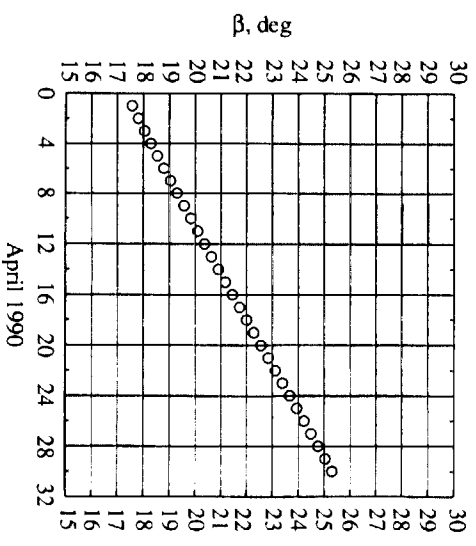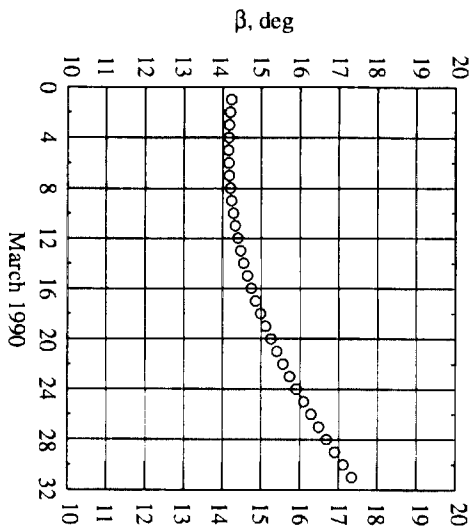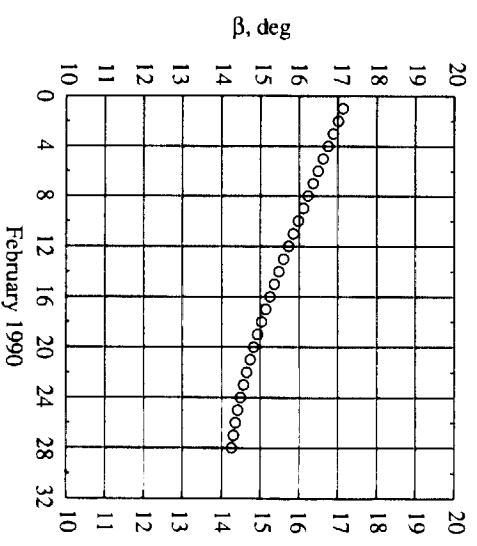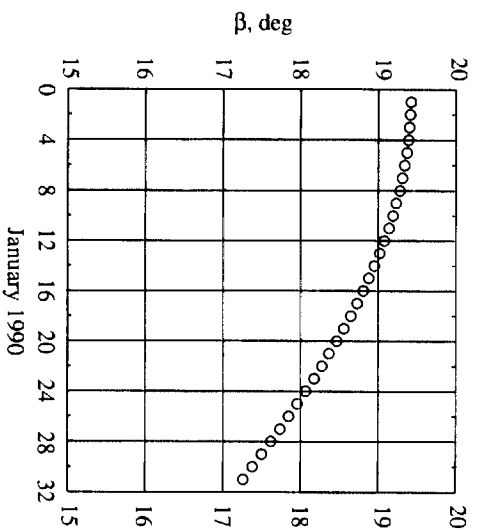
Figure 7. Monthly β plots for NOAA 9 orbits from January 1990 through December 1990.

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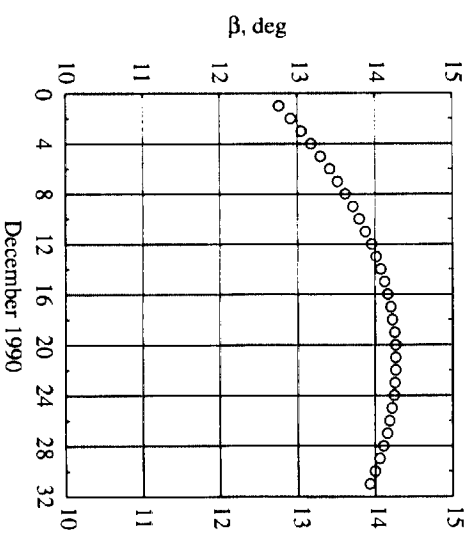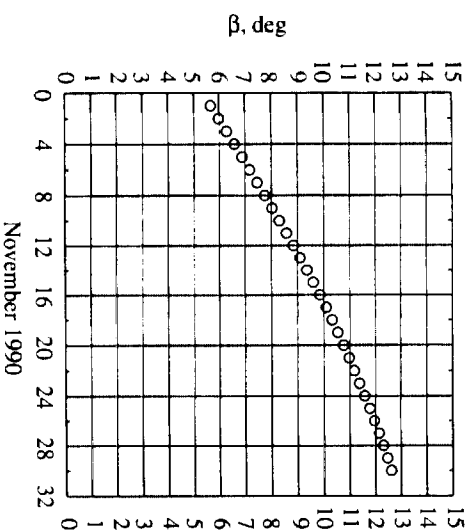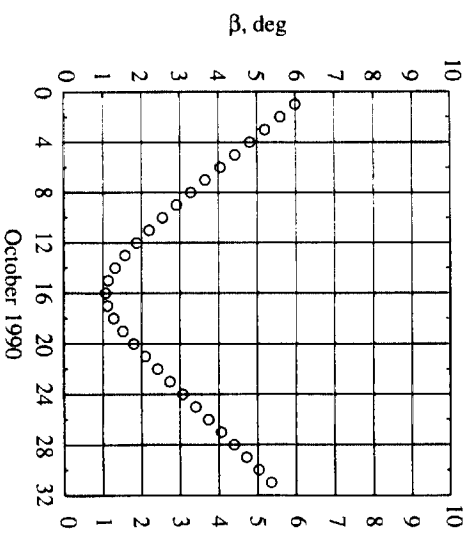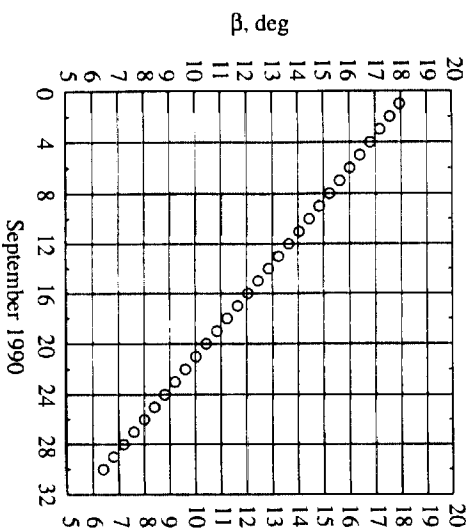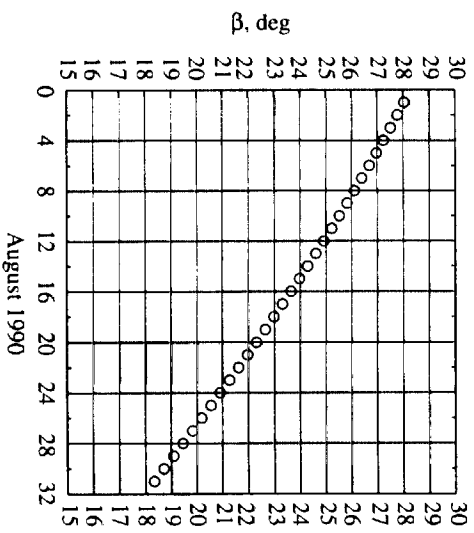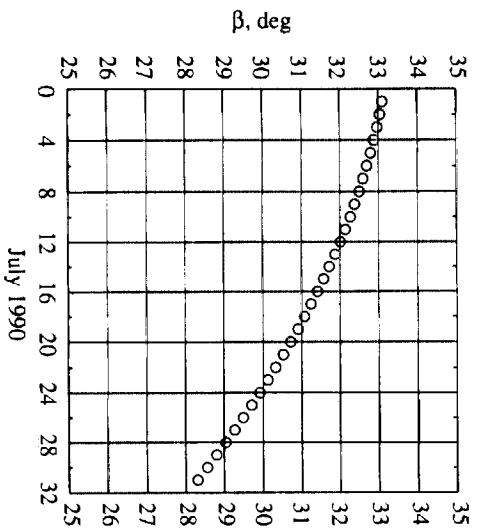
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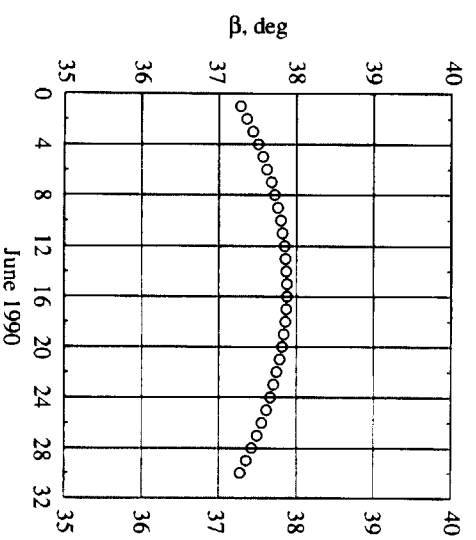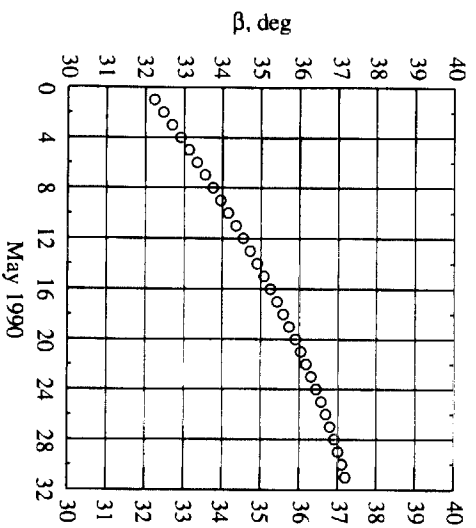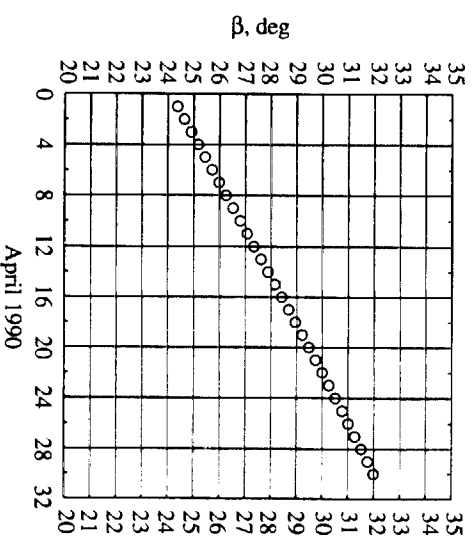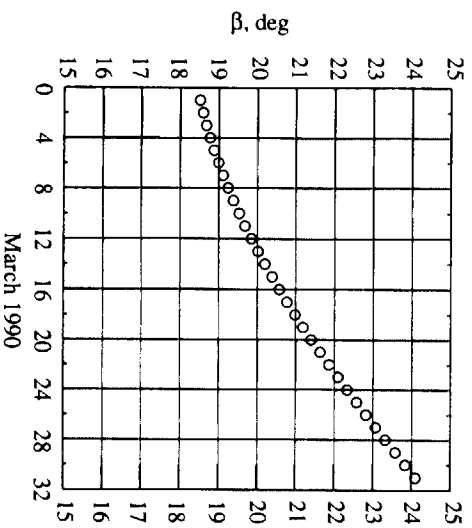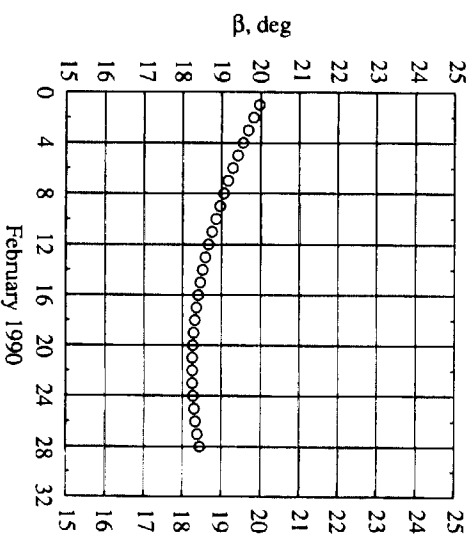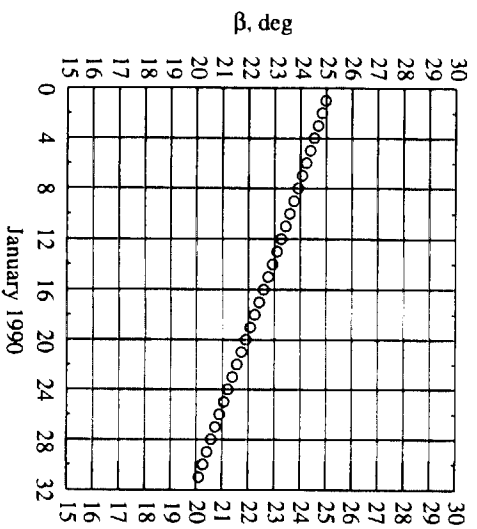
Figure 8. Monthly β plots for NOAA 10 orbits from January 1990 through December 1990.
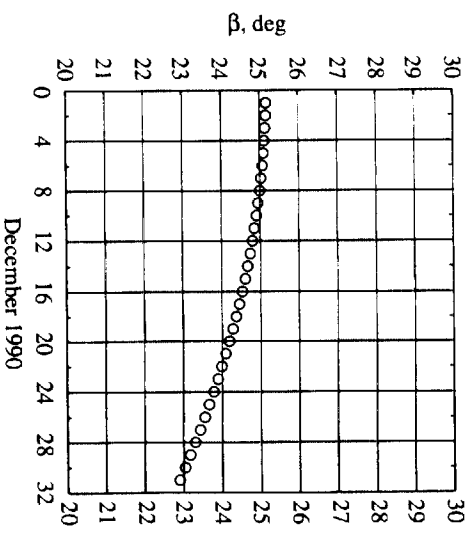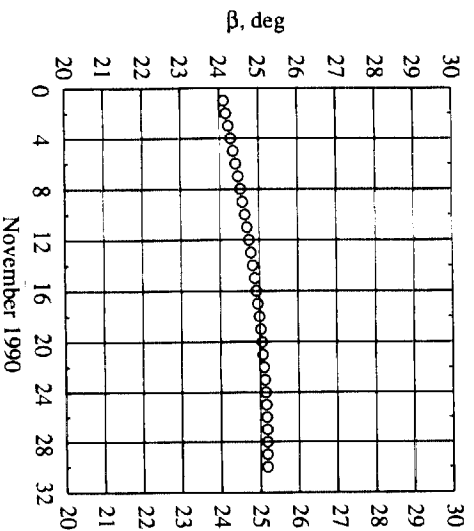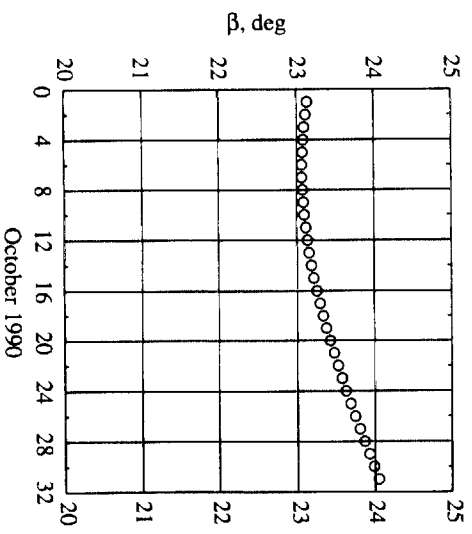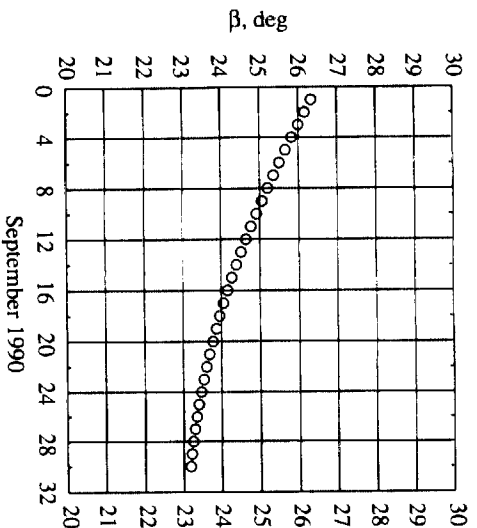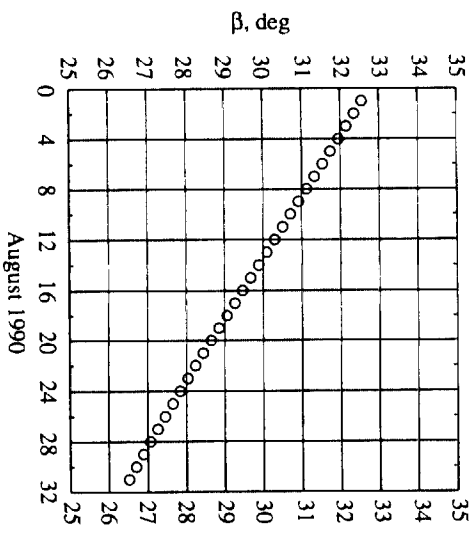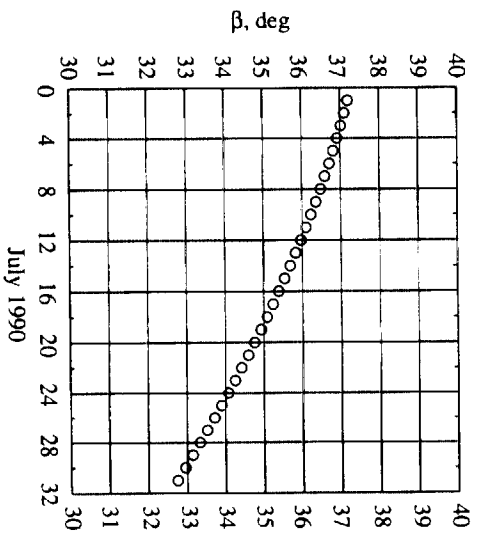
Figure 8. Concluded.
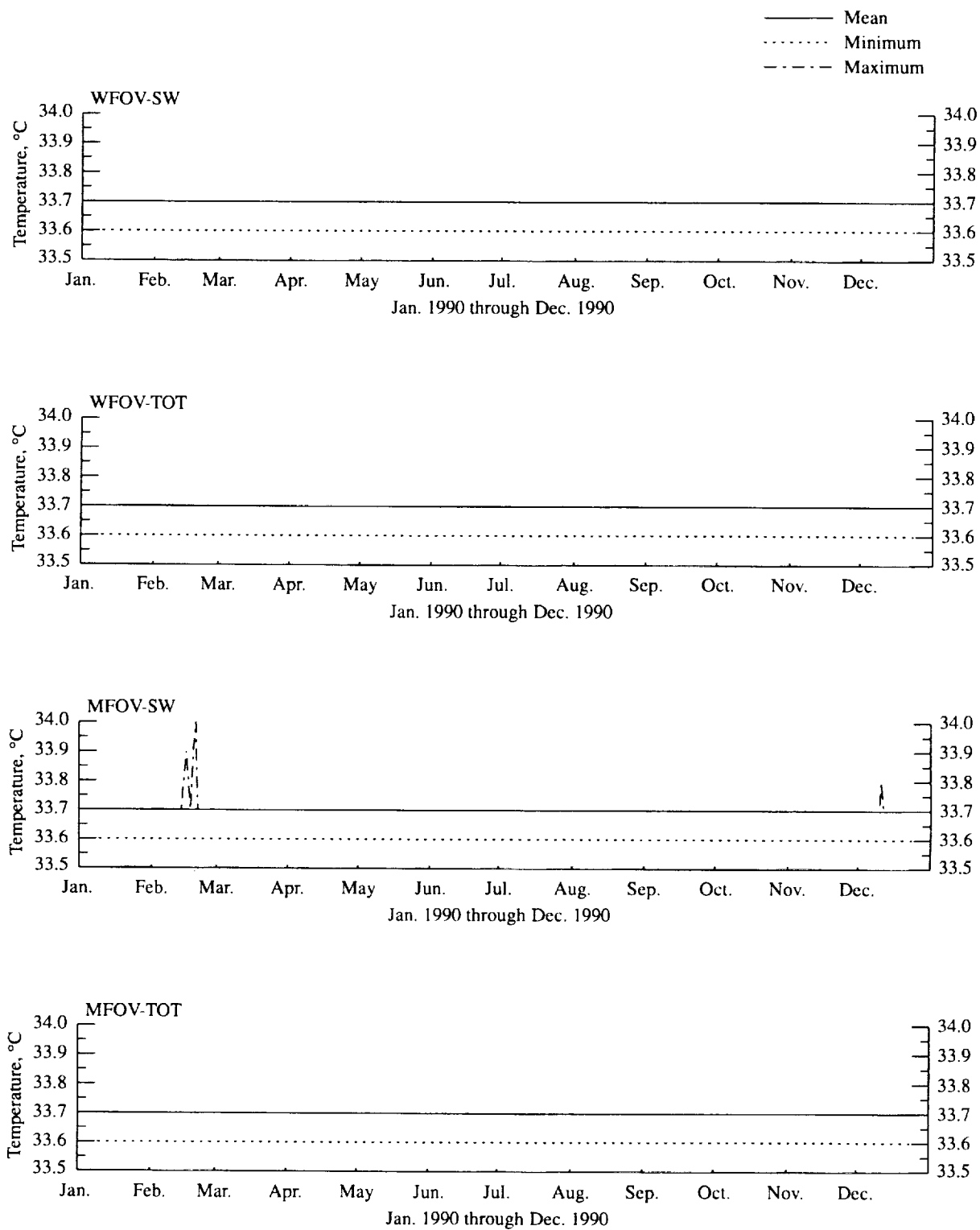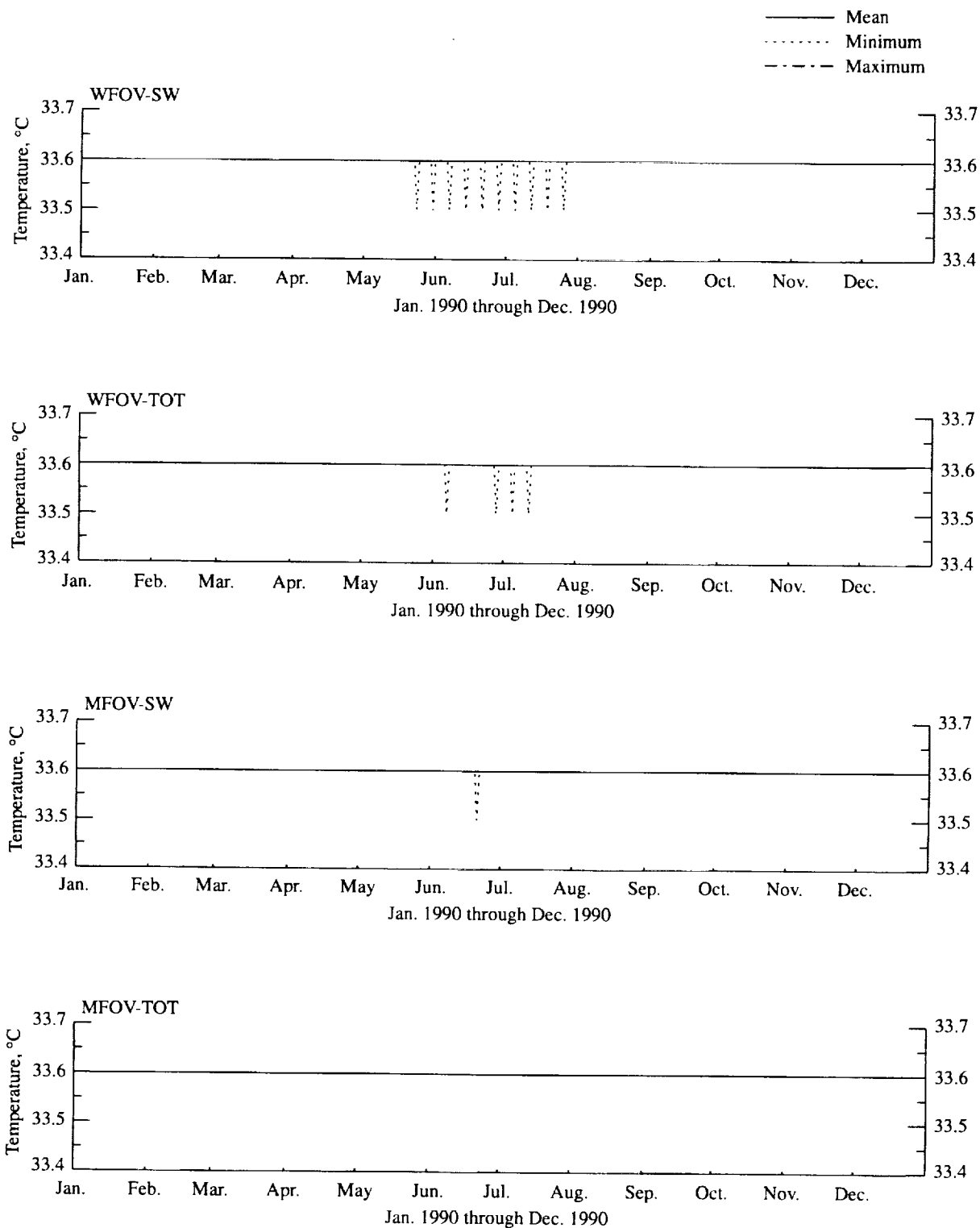
Figure 9. ERBS nonscanner heat sink temperatures of Earth-viewing detectors. Daily values of minimum, mean, and maximum.
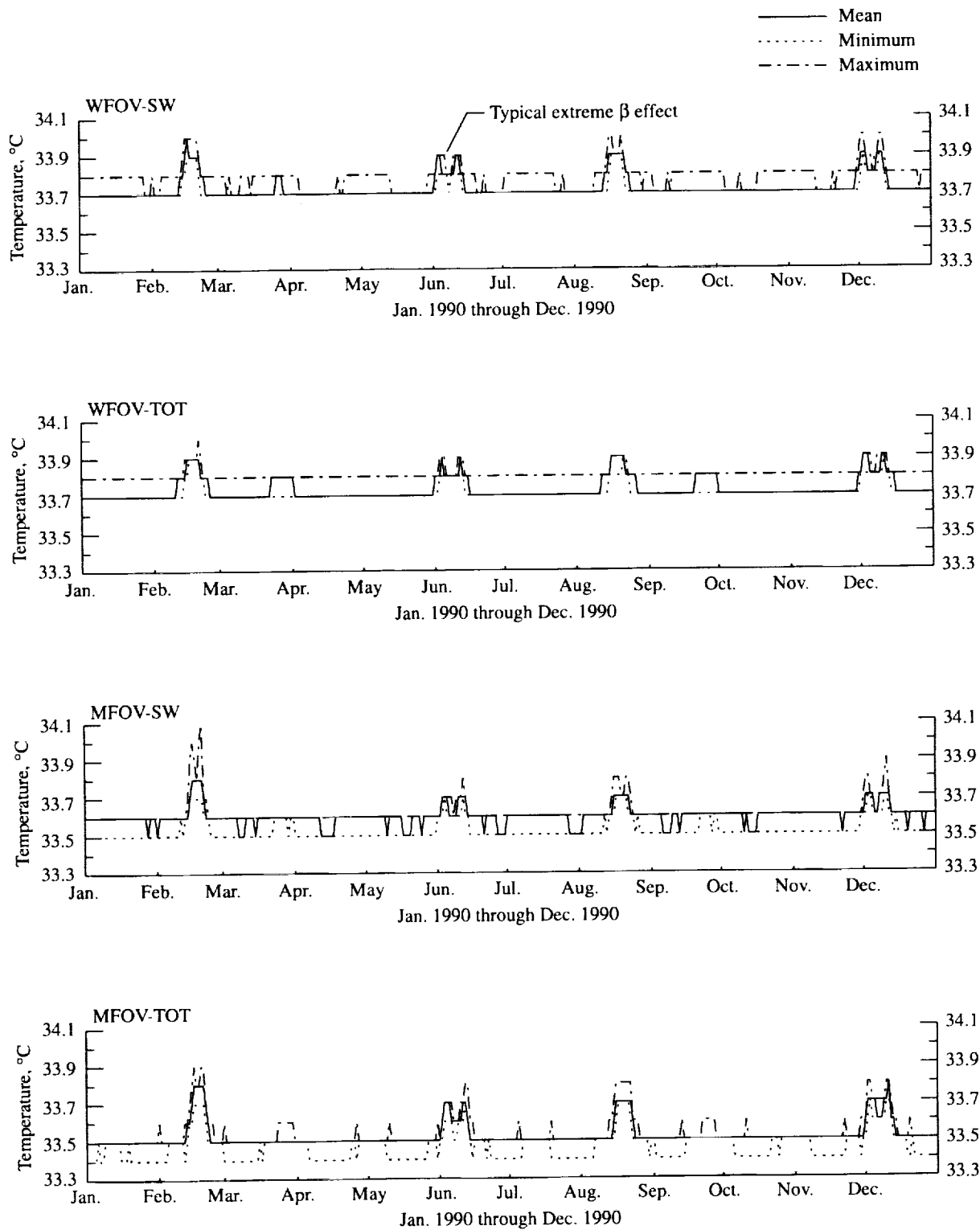
Figure 10. ERBS nonscanner aperture temperatures of Earth-viewing detectors. Daily values of minimum, mean, and maximum.
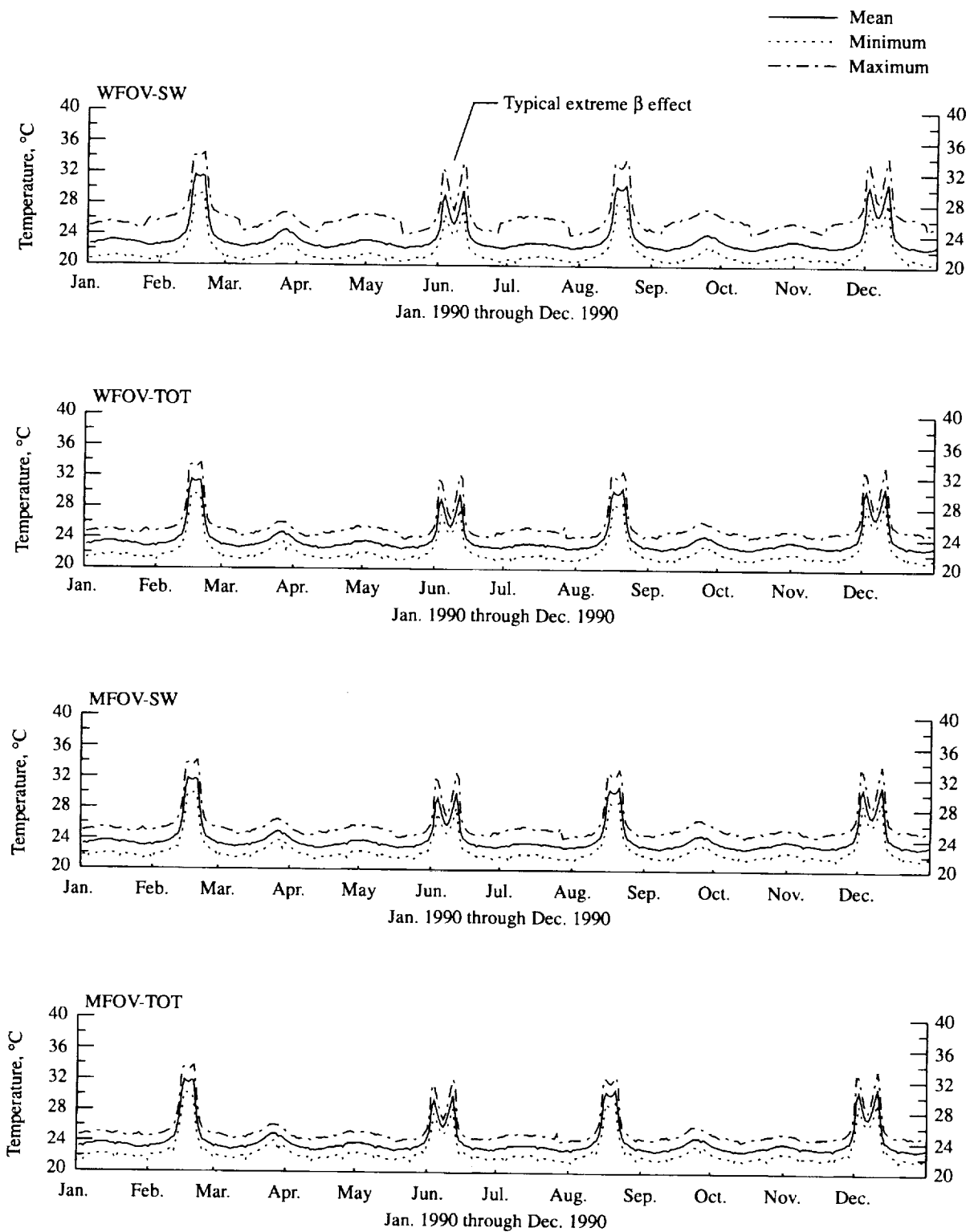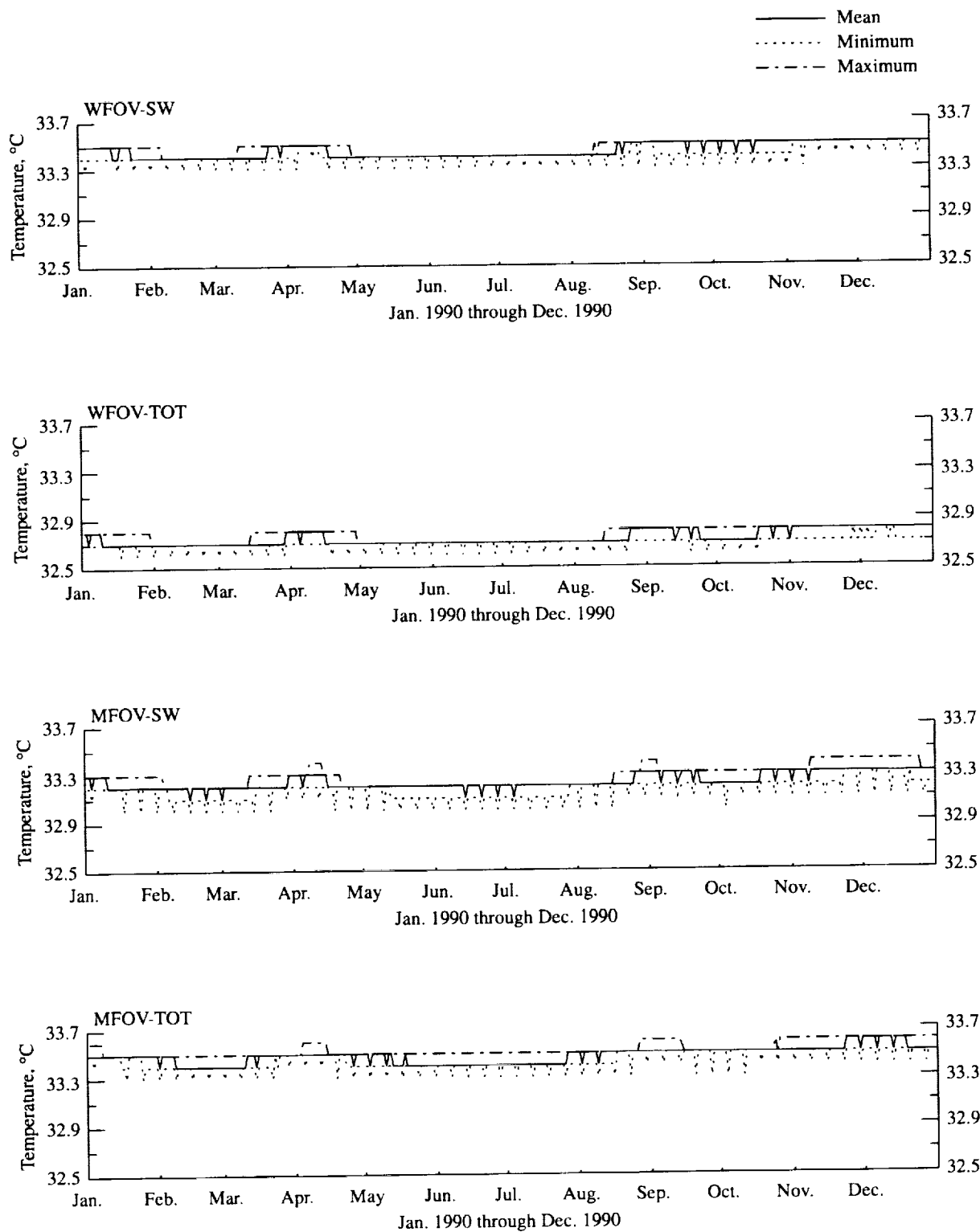
Figure 11. ERBS nonscanner field-of-view limiter temperatures of Earth-viewing detectors. Daily values of minimum, mean, and maximum.
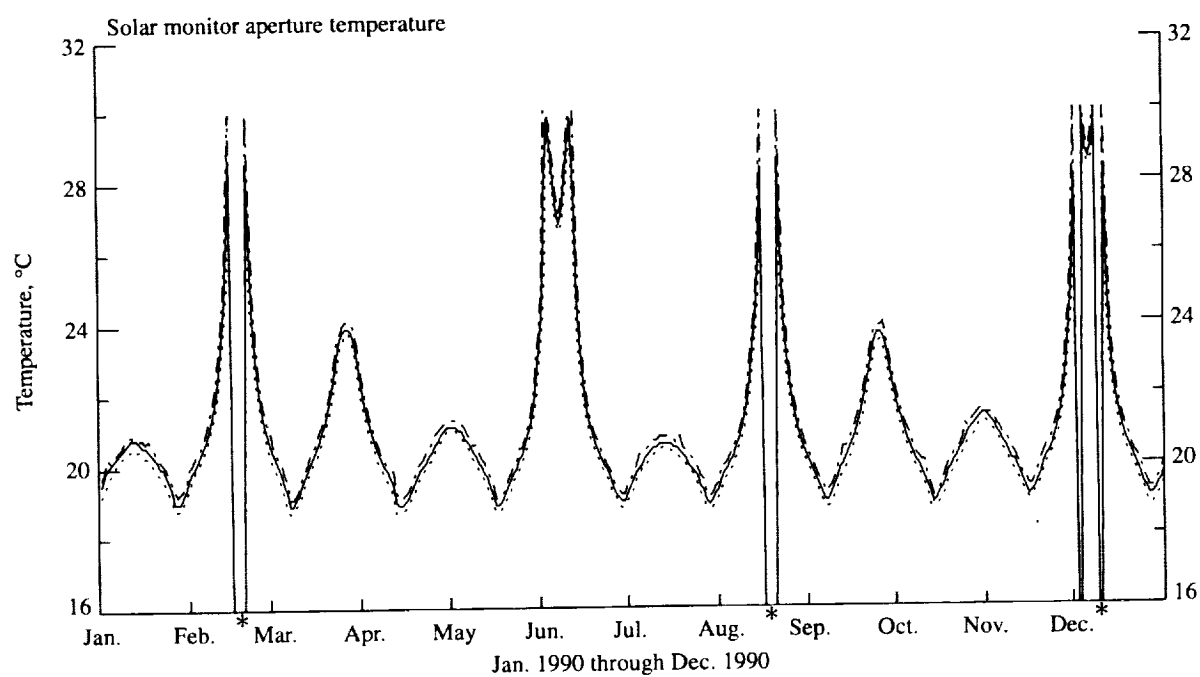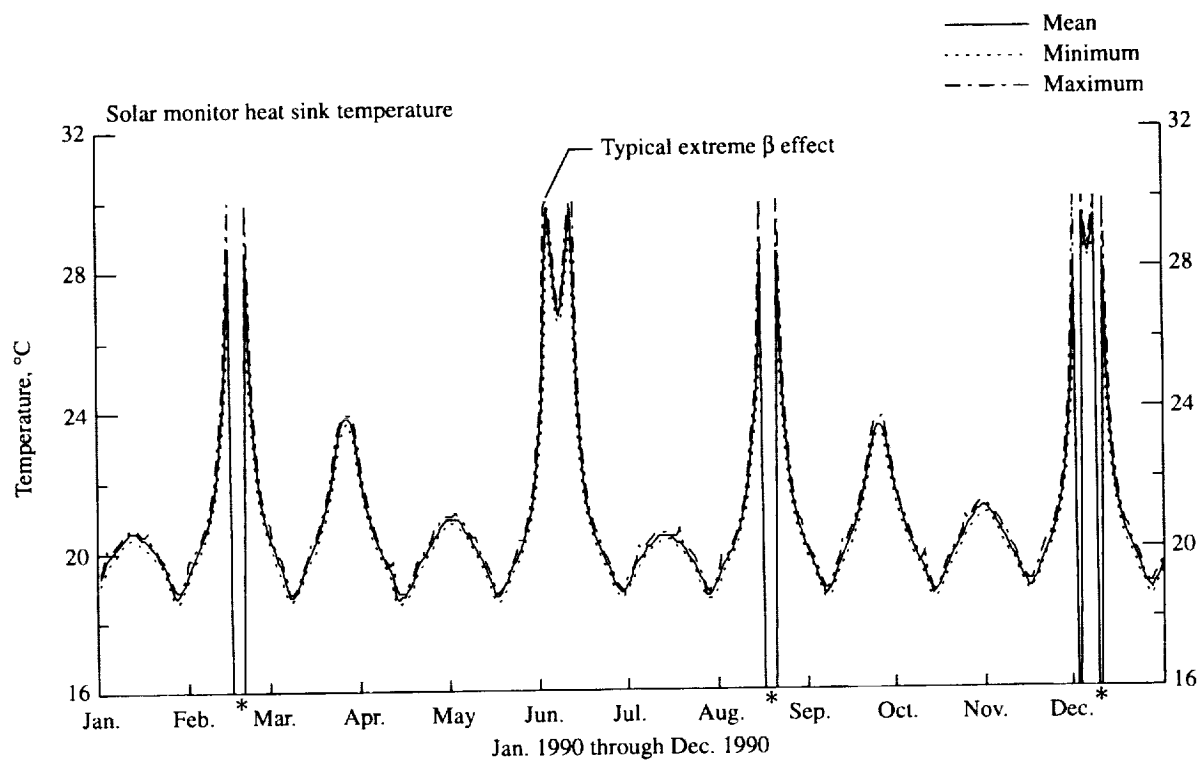
Figure 12. ERBS solar monitor heat sink and aperture temperatures. Daily values of minimum, mean, and maximum. Asterisks (*) denote that all data exceeded maximum telemetry edit limits.
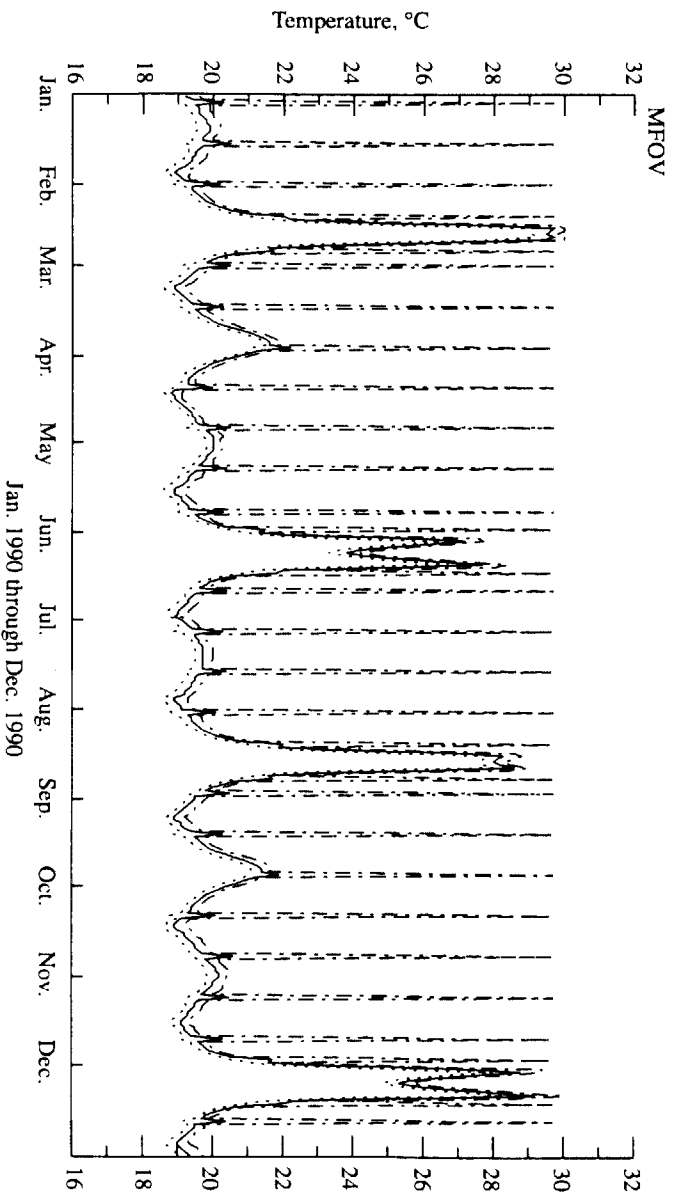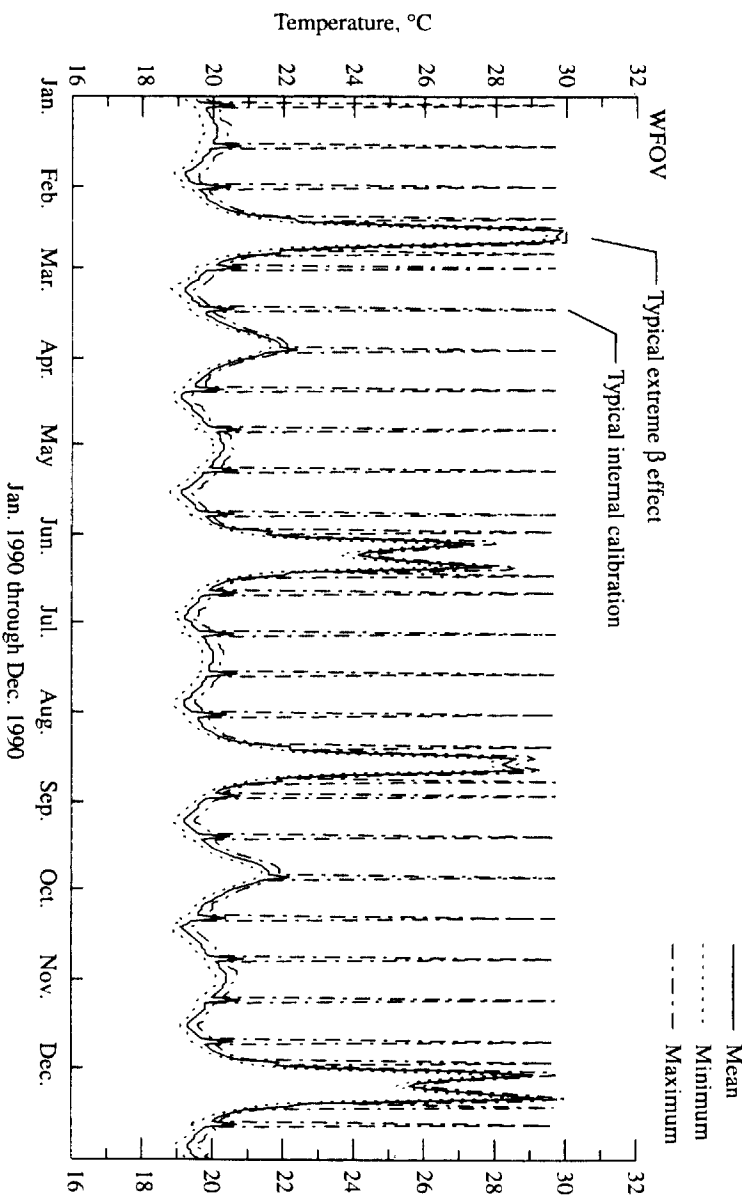
Figure 13. ERBS nonscanner blackbody temperatures. Daily values of minimum, mean, and maximum.
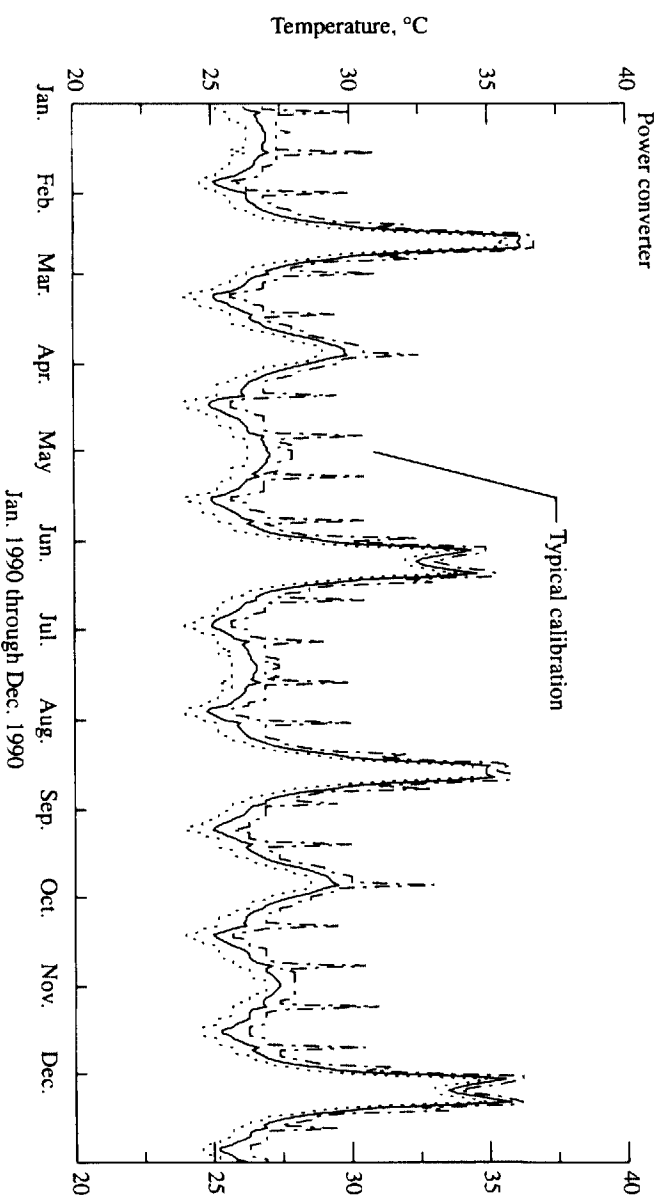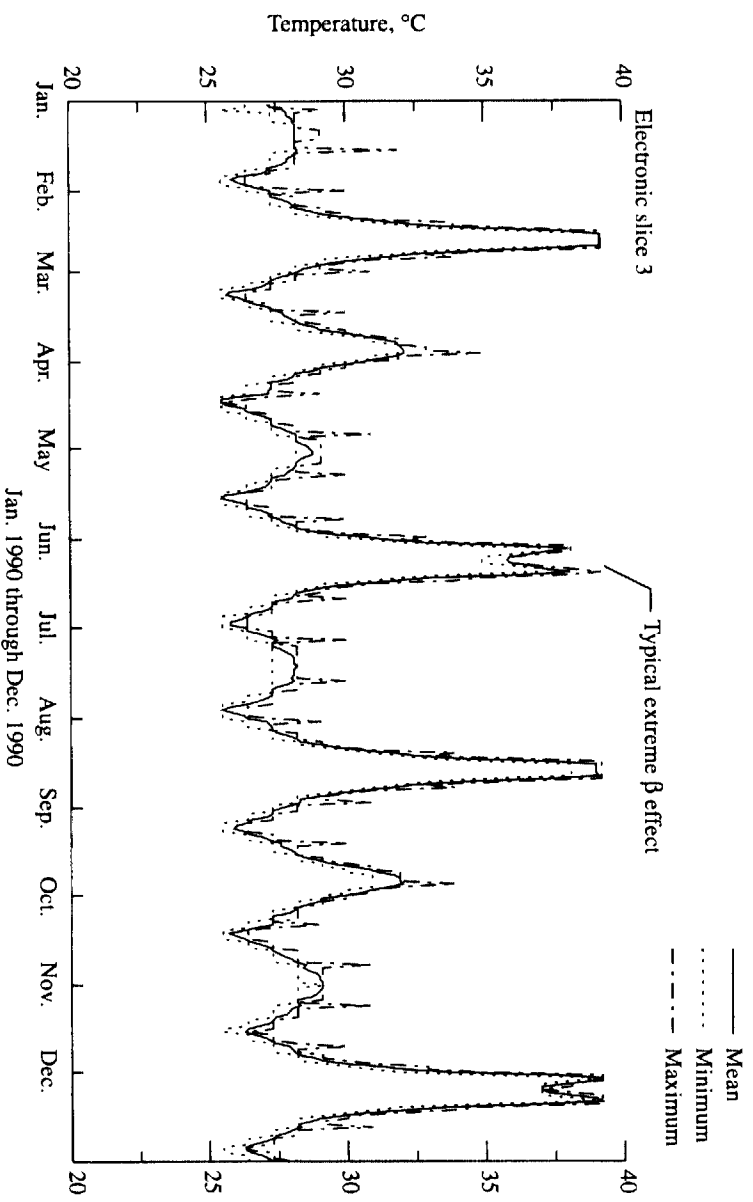
Figure 14. ERBS nonscanner passive analog temperatures. Daily values of minimum, mean, and maximum.

WFOV-SW

Mean
Minimum
Maximum

WFOV-TOT

MFOV-SW

MFOV-TOT
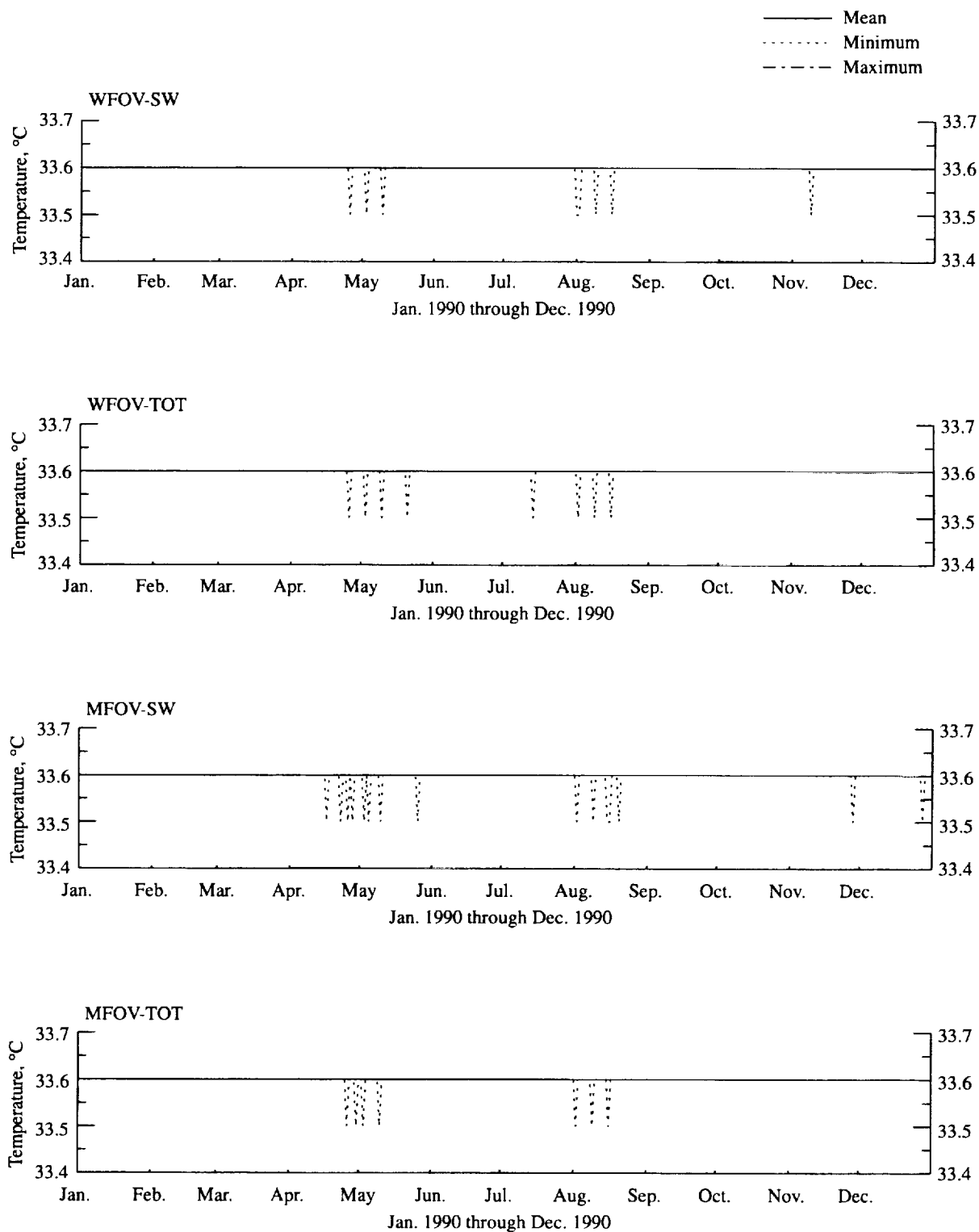
Figure 15. NOAA 9 nonscanner heat sink temperatures of Earth-viewing detectors. Daily values of minimum, mean, and maximum.
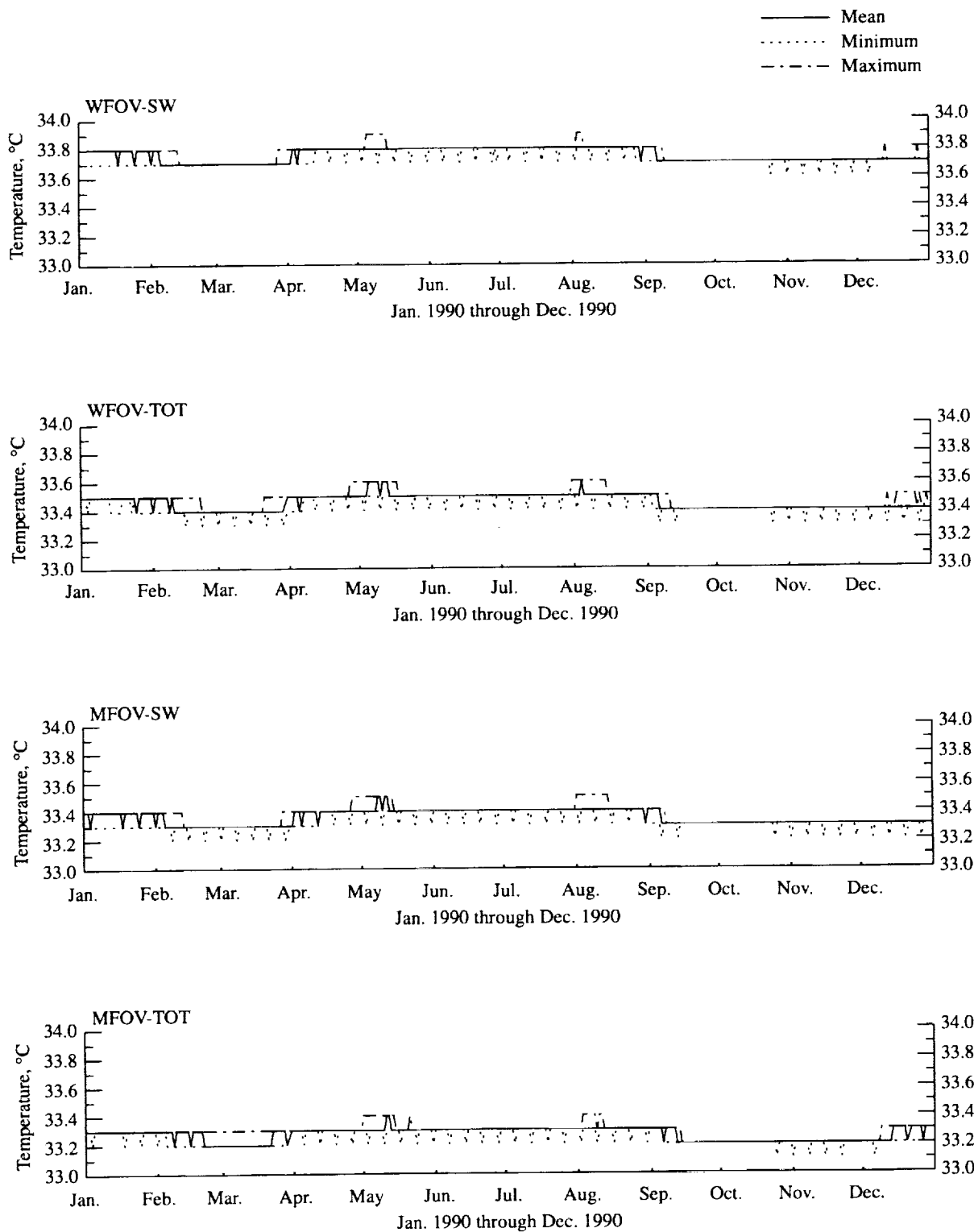
Figure 16. NOAA 9 nonscanner aperture temperatures of Earth-viewing detectors. Daily values of minimum, mean, and maximum.
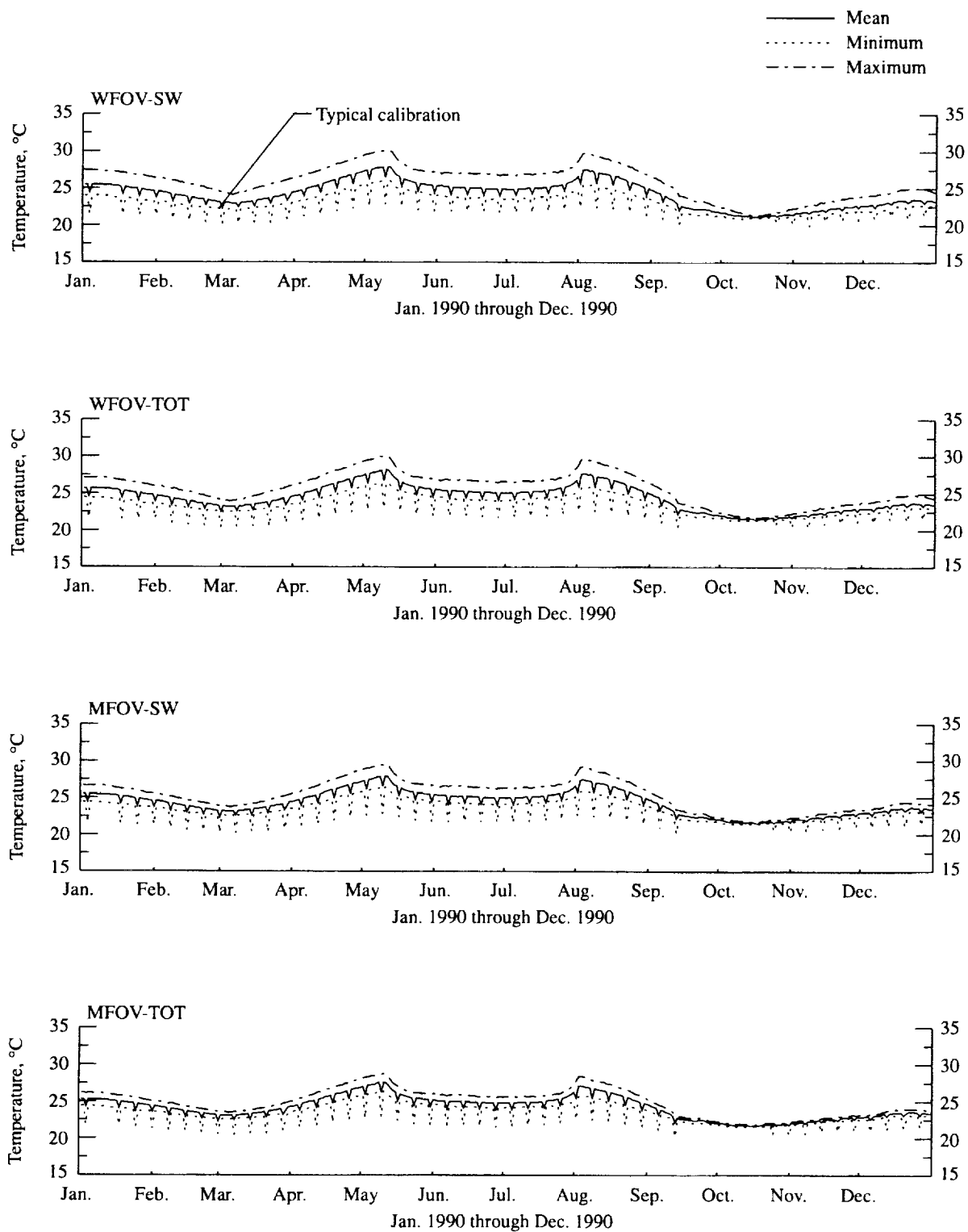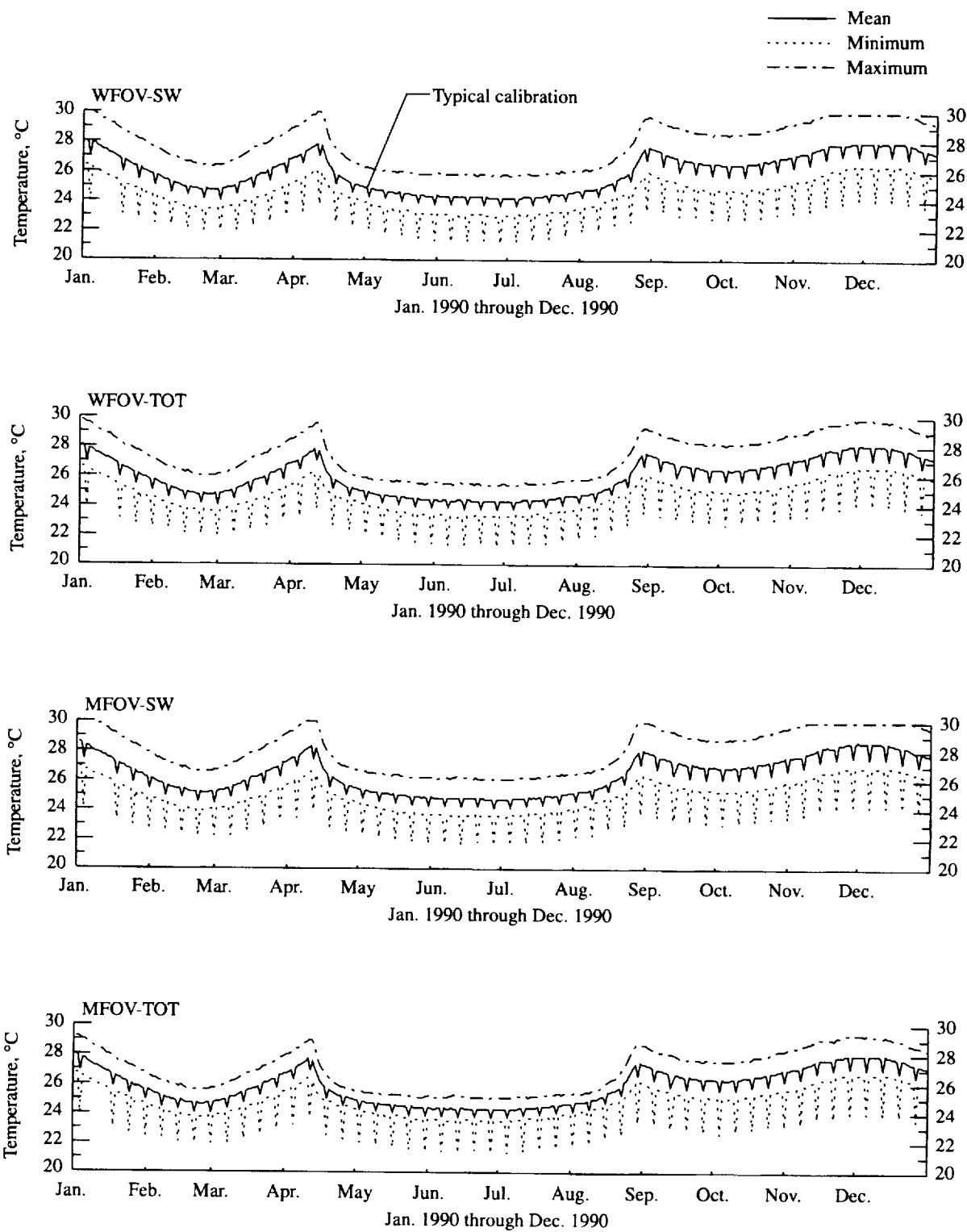
Figure 17. NOAA 9 nonscanner FOV limiter temperatures of Earth-viewing detectors. Daily values of minimum, mean, and maximum.
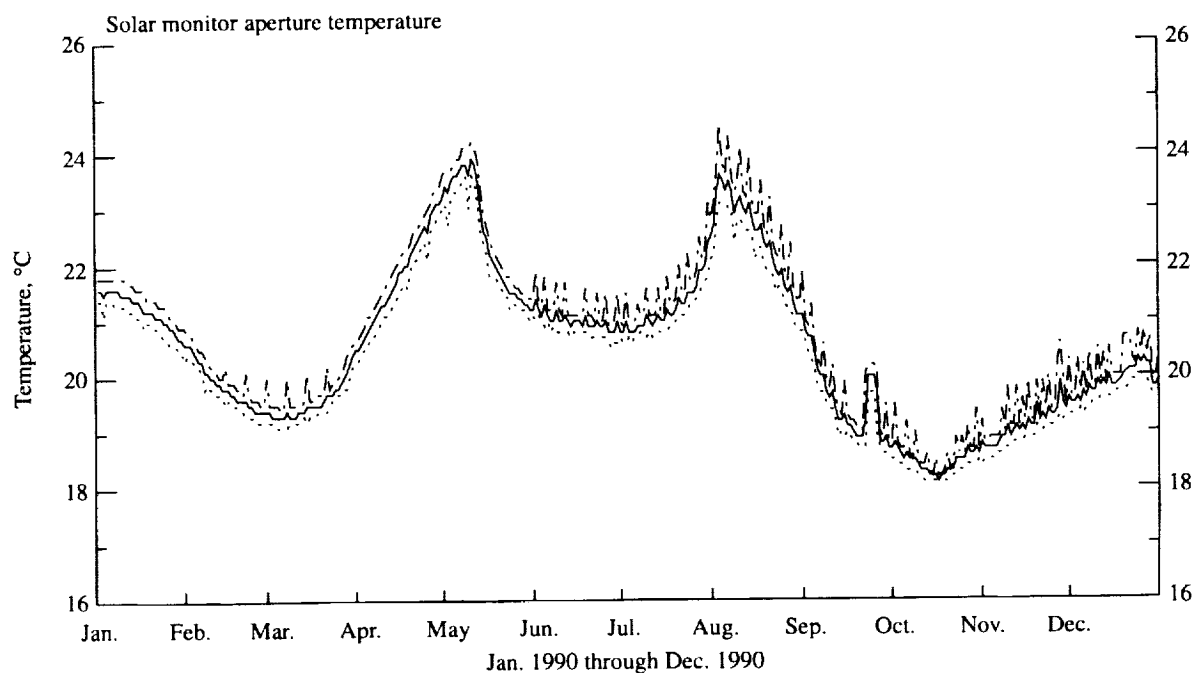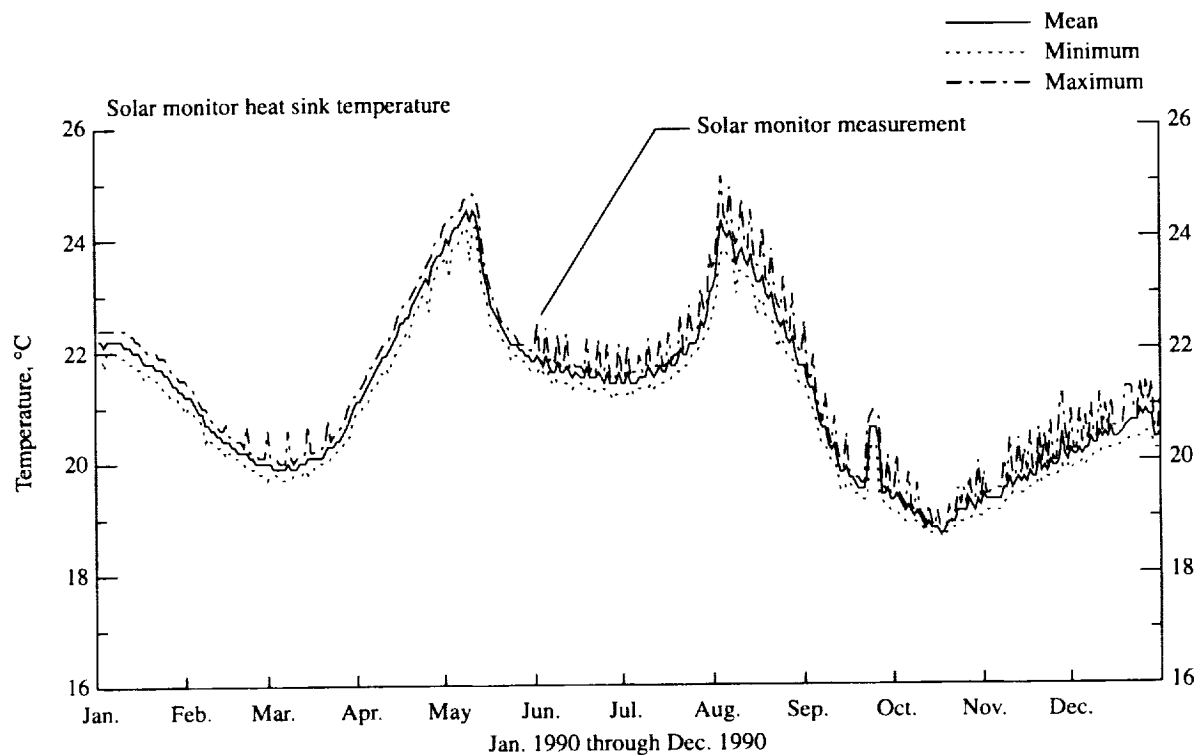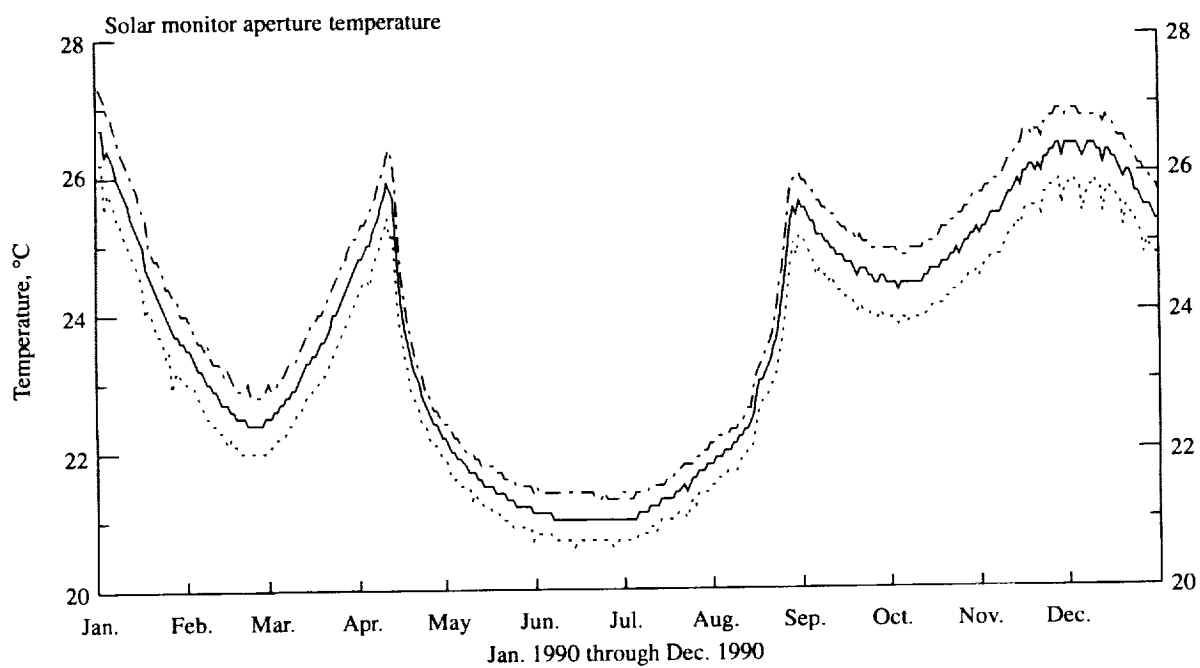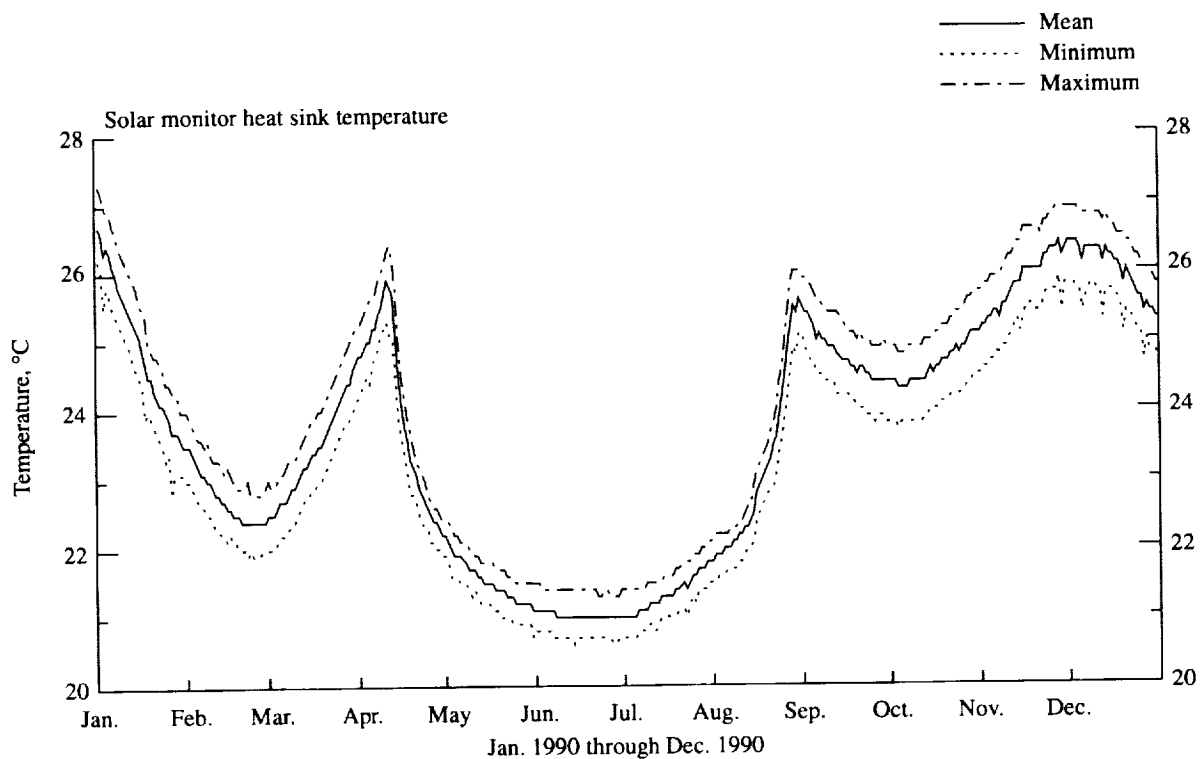
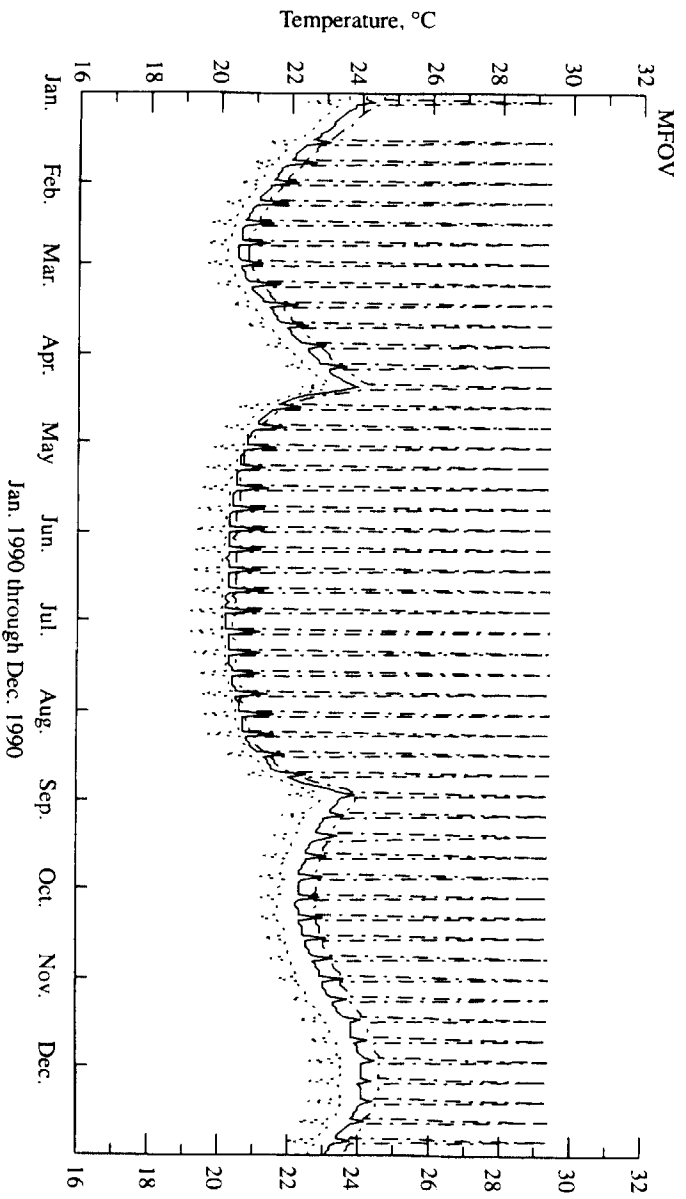Figure 18. NOAA 9 solar monitor heat sink and aperture temperatures. Daily values of minimum, mean, and maximum.
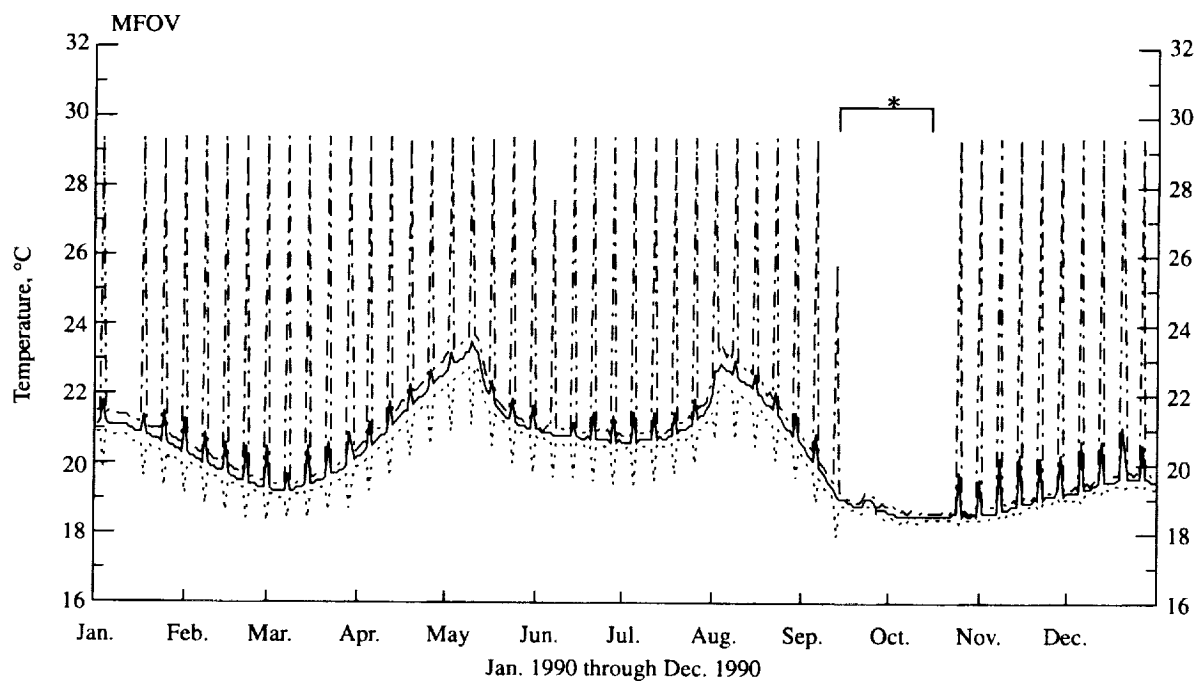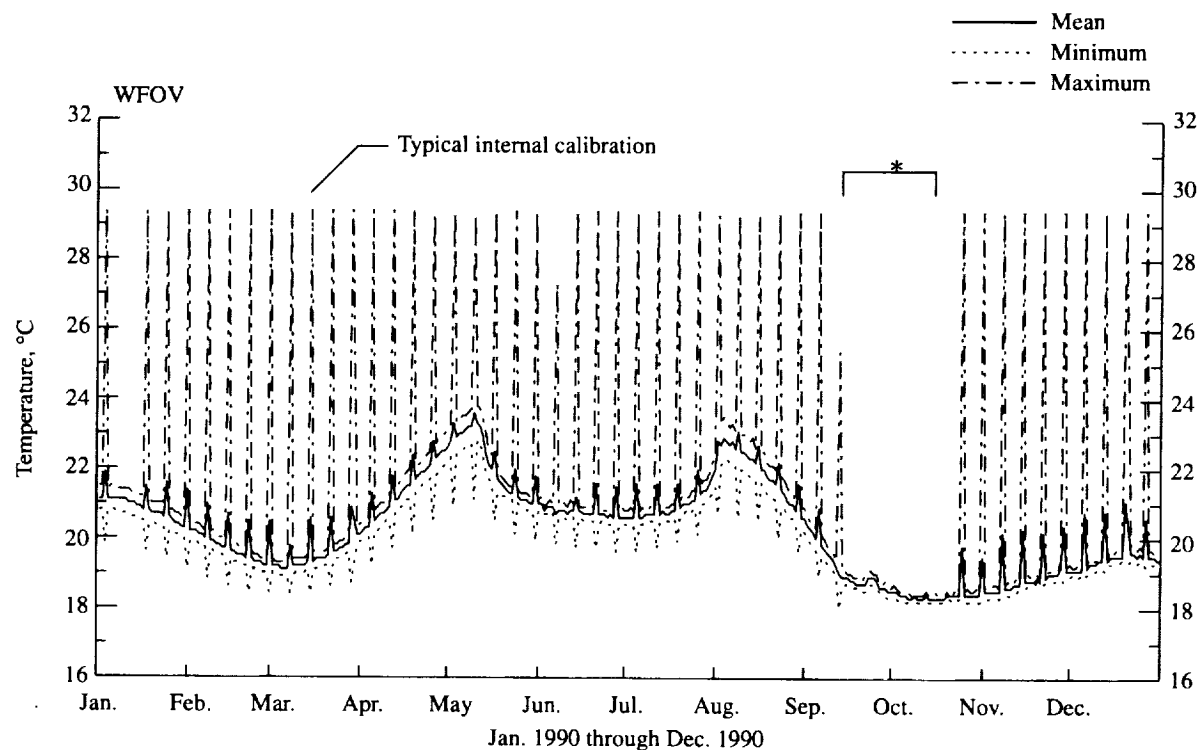
Figure 19. NOAA 9 nonscanner blackbody temperatures. Daily values of minimum, mean, and maximum. Asterisks (*) denote calibrations were suspended due to low β angle during this period.
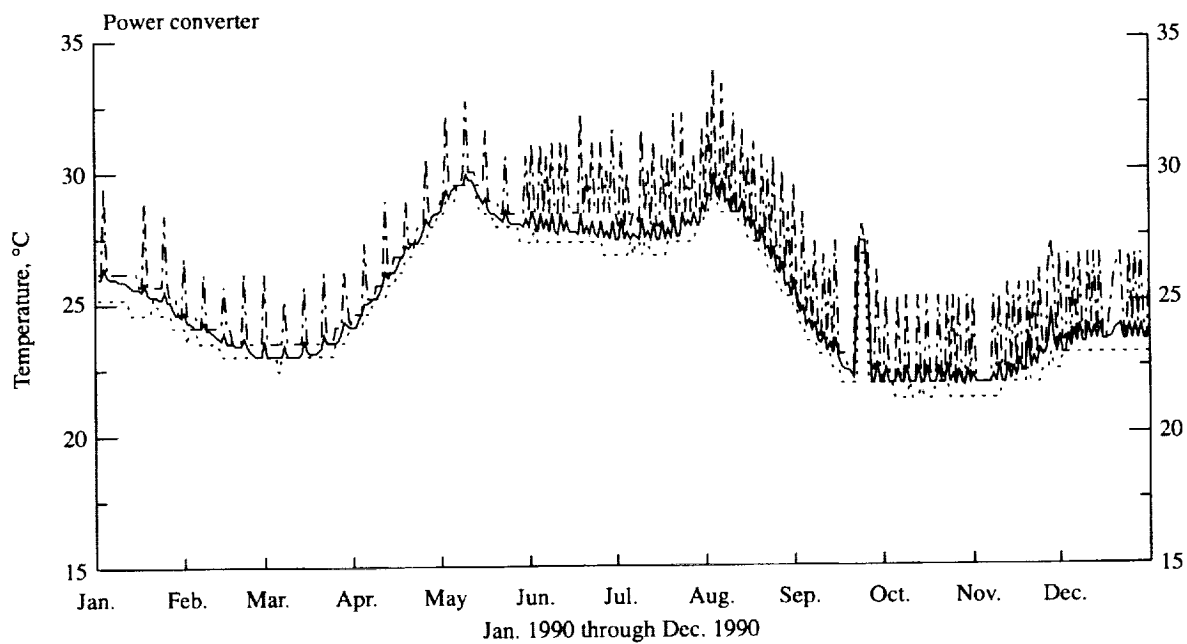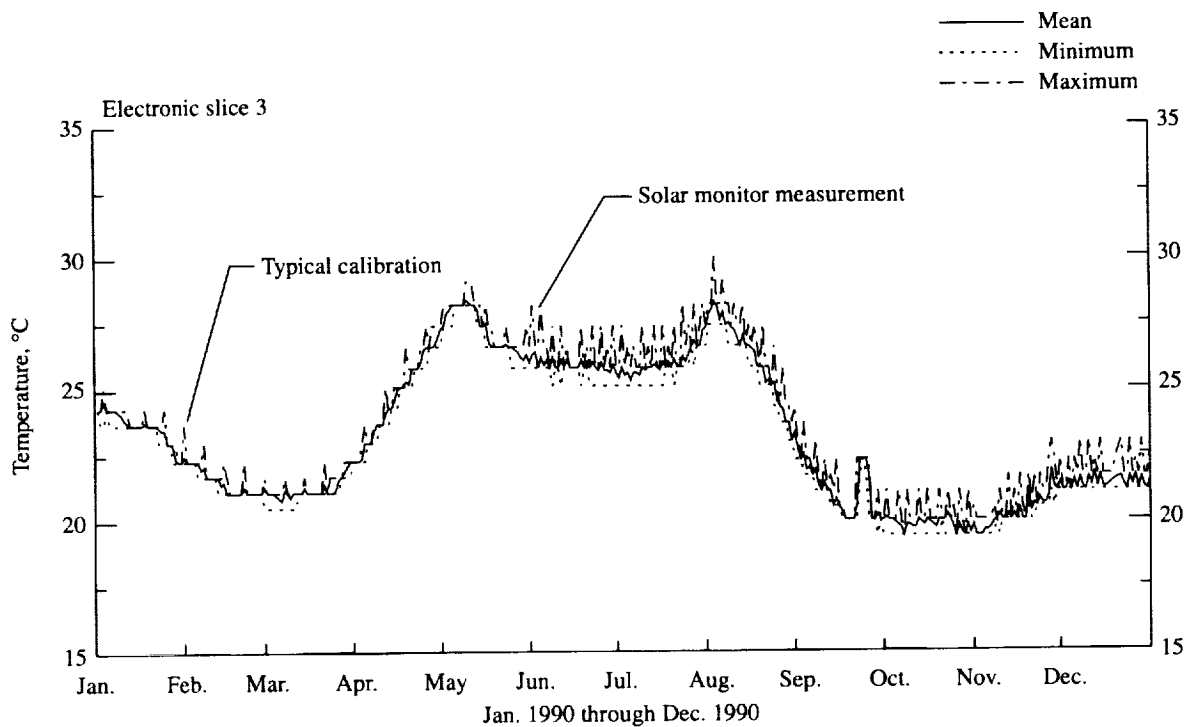
Figure 20. NOAA 9 nonscanner passive analog temperatures. Daily values of minimum, mean, and maximum.

Figure 21. NOAA 10 nonscanner heat sink temperatures of Earth-viewing detectors. Daily values of minimum, mean, and maximum.

Figure 22. NOAA 10 nonscanner aperture temperatures of Earth-viewing detectors. Daily values of minimum, mean, and maximum.

Figure 23. NOAA 10 nonscanner FOV limiter temperatures of Earth-viewing detectors. Daily values of minimum, mean, and maximum.

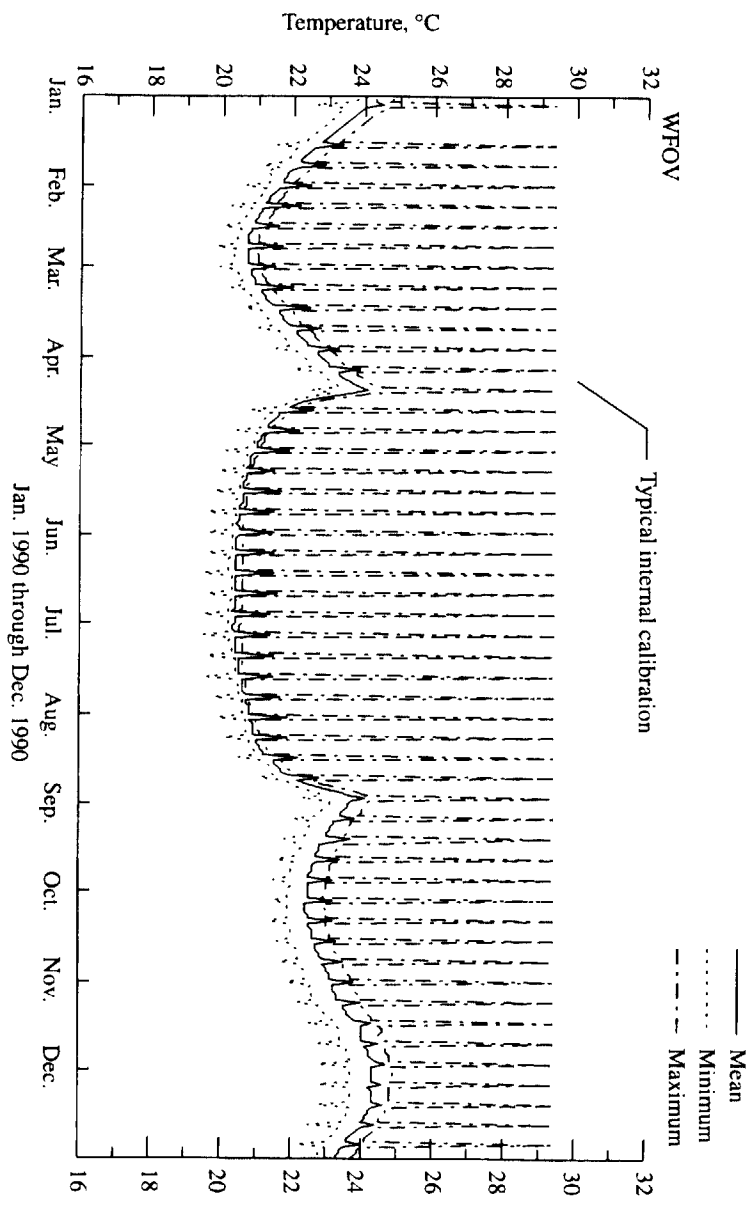Figure 24. NOAA 10 solar monitor heat sink and aperture temperatures. Daily values of minimum, mean, and maximum.

Figure 25. NOAA 10 nonscanner blackbody temperatures. Daily values of minimum, mean, and maximum.
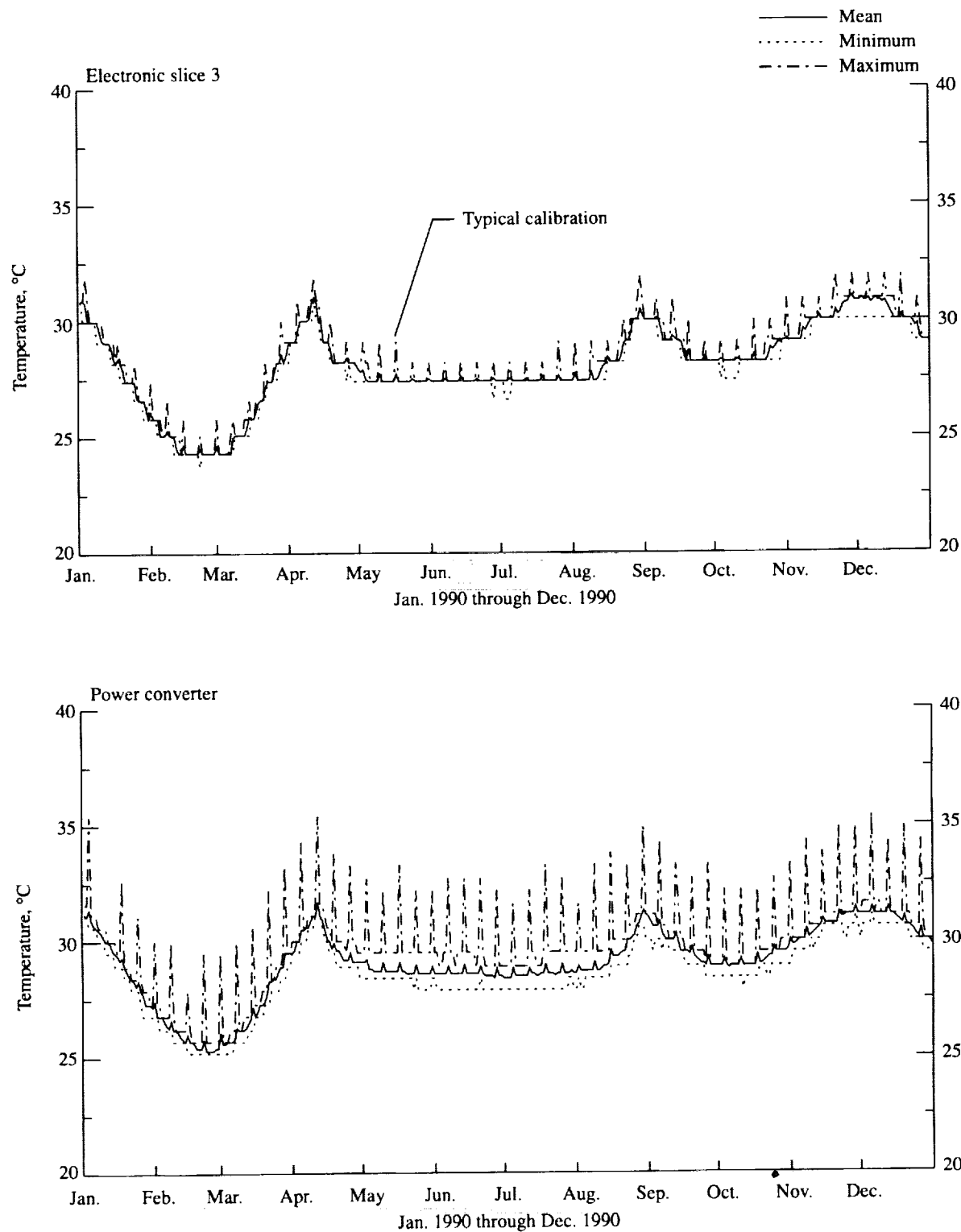
Figure 26. NOAA 10 nonscanner passive analog temperatures. Daily values of minimum, mean, and maximum.